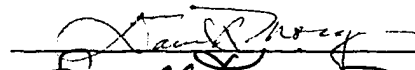
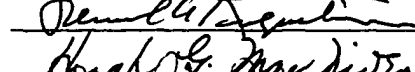
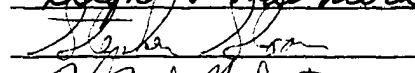
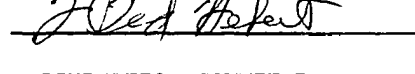
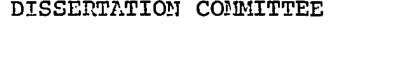


THE IMPACT OF COLLECTIVE BARGAINING
ON PUBLIC EMPLOYEE COMPENSATION:
AN ECONOMIC ANALYSIS

APPROVED BY

DISSERTATION COMMITTEE

TO

MARY JANE AND NICOLE

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PREFACE

An economic crisis is confronting many state and local governments within the United States today. The politics of scarcity hit many urban centers in the late 1960's with the onslaught of a major economic downturn. During and after the 1969-70 and 1974-75 recessions, some state governments also faced rising budget deficits which rivaled those of the troubled cities. In an effort to deal with their fiscal problems, many state and local governments found themselves in the unpalatable position of having to increase taxes, reduce expenditures, lay off employees, or cancel capital construction projects (see Schlosstein, 1975: 47). Several factors portend a continuation of state and local fiscal crises, including declining population and revenues in the larger, older cities of the Northeast and in those states not fortunate enough to be located within the "Sun Belt"; chronically high inflation and unemployment throughout much of the country; and what appears to be a retreat by the federal government from the financial morass of the cities (see Haides, 1976: 178; Schlosstein, 1975: 47).

As state and local government expenditures for public employees have expanded sharply, sometimes at the expense of much needed capital improvements, some have alleged that public employee unionism may be a major culprit in the economic crisis. Certainly there is at least some truth in the allegation in the case of New York City, whose high public

employee pay, pensions, and other fringe benefits have played a noticeable role in the city's continual flirtation with bankruptcy. While the fact goes unchallenged that employee compensation constitutes by far the single largest expenditure in state and local government operating budgets, systematic empirical research on the impact of collective bargaining on public employee wages and benefits is scarce. The present study is intended to help alleviate the research lacuna in this vital area.

In the first chapter, a brief historical overview of organized labor in the United States will be presented. After a look at the legal environment of labor relations in the public and private sectors, the tremendous growth in public employee unionism will be traced with particular attention given to the leading state and local employee organizations. The first chapter will conclude with a summary and analysis of the theoretical and empirical work economists have contributed to the general area of unions and employee compensation. It will concentrate on wage theory, the union impact on wages and benefits in private sector employment, and the determinants of wages.

The setting of public sector labor relations differs from that found in the private sector. In Chapter Two, a description of the primary dissimilarities in legal, economic, and organizational environments is offered. Reviews will follow of the theoretical and empirical work of economists concerned with public sector wage theory in general and the specific impact of unions on wages and benefits in the public sector. It will be apparent that theoretical contributions are sparse in these areas, but that a great deal of empirical work has appeared on the impact of unions on the compensation of public school teachers.

The relevant literature will be drawn from in presenting a model of the union impact on state and local employee compensation.

In Chapter Three, a variant of the model will be applied in order to assess the influence of unions on faculty compensation in higher education within the United States. A cross-sectional, multivariate analysis will be performed using AAUP data on faculty compensation for matched pairs of union and nonunion institutions. The dependent variables will consist of 1969-70 and 1974-75 faculty compensation and a change measure spanning the years between the two time periods.

The analysis will proceed in Chapter Four with a similar testing of the model on the impact of unions on the compensation of state government employees. Multiple regression techniques will be employed to measure the effects of employee organizations on overall levels of employee compensation and on compensation in four functional categories. Aggregate data will be drawn from published sources for use in the analysis, which employ 1974 data for the 50 states.

In the fifth chapter, data gathered from a survey questionnaire mailed to local governments of 10,000 population and above in Oklahoma, Texas, New Mexico, Kansas, and Arkansas will serve as the basis for an examination of the impact of unions on the wages and benefits of policemen. Survey results will be supplemented in the multivariate analysis with data obtained from the regional office of the Bureau of Labor Statistics and various government documents.

The final chapter will consist of a summary of the findings regarding the impact of unions on the compensation of state and local government employees. Preliminary conclusions will be stated, and the various policy implications of the findings will be discussed.

The dissertation will focus on a limited effect of public employee unionism--its impact on the amount of wages and benefits paid to public workers. Although the various causes of public employee unionism will be discussed briefly in Chapter One, these causal factors will remain tangential to the bulk of the discussion which follows.

CHAPTER ONE

UNIONS AND COMPENSATION: BACKGROUND

It is impossible to conceive of human culture without the existence of groups. The earliest oral histories and written words were concerned with the clan, the tribe, and the family, long before the appearance of any overtly political entity. The nature of the communal compulsion underwent change with the evolution of secondary groups, the polis, the feudal estate, the monarchy, and the nation state, but man remained primarily a social creature, joining together with other human beings in both permanent and temporary alliances.

Some of the first alliances developed around the workplace. Tyler (1972: 98) relates that early labor-oriented organizations included the priesthood in ancient Sumaria, skilled temple workers in Mesopotamia, *colegii* of occupational groups in old Rome, and guilds in medieval Europe. It is to these early guilds that the roots of contemporary labor organizations can be traced.

But guilds--associations of apprentices and their masters in various crafts--were not trade unions as we know them now, as no division between "owner" and "worker" existed (Nisbet, 1976: 26-27). In fact, the dichotomy did not occur in any substantial form until the Industrial Revolution in 19th century Europe. Nisbet (1976: 28) attributes the

upsurge in labor organizations at that time to (1) social and legal atomism, "the kind of atomism that had been created by the new industrial system, with its large, impersonal factories, its rigid division between 'owners' and 'workers,' and by the sudden loss of traditional, communal contexts of village, parish, and extended family by so many thousands of workers;" and (2) the decline of Western state power which commenced following the French Revolution.

Whatever the causes of trade unionism in 19th century Europe, the phenomenon did not tarry long before crossing the Atlantic to establish a permanent residence in North America. In fact, precursors of modern trade unions were formed on a limited scale in the post-Revolutionary War period by local craftsmen. By the 1820's some of these local organizations joined into city-wide federations in the industrial centers of the Northeast, and in 1834 a National Trades Union was formed. These early organizations suffered a precarious existence. They had no legal basis, and under common law, were generally considered criminal conspiracies in restraint of trade. But by the late 1850's unionism was firmly established in the United States. Soon, the Knights of Labor arose to transcend the boundaries of craft unionism and unite all workers under a single banner. Samuel Gompers seized the wheel of the American Federation of Labor and doggedly steered the organization into the national political arena. The Industrial Workers of the World campaigned politically against the ravages of capitalism. Later, the Knights of Labor would be dissolved, and the other two organizations would be merged into the AFL-CIO. Although they would not reach the political and ideological heights of the European trade union movement, American unions had become a significant social and political force.

From Table 1, the growth in union membership in the United States may be observed both in absolute numbers and as a percentage of the total labor force for selected years from 1930 to 1972. It is evident that while the total number of union members has increased fairly steadily since 1930, union membership as a percentage of the overall work force attained its highest levels in the mid-1950's and has declined somewhat since then.¹ The greatest periods of growth were during World War I, 1935-1939, and 1940-1944. In general, a favorable organizing climate has existed for unions during periods of short labor supply, rising prices, and/or times of social and political unrest. More important, however, has been the legal environment surrounding labor.

The Legal Environment²

Before the 1930's, while unions were not illegal per se, they had little legal ground to stand on. Collective bargaining³ was a rarity. Court injunctions and "yellow-dog" contracts were used by employers to limit and contain union organizing. Disregarding the ineffectual Clayton Act of 1914, the first significant legislation for union organizing came in 1932 with the passage of the Norris-LaGuardia Act (Bloom and Northrup, 1973: 45). For the first time, the right of American workers to bargain collectively was endorsed legally. Furthermore, the use of federal injunctions in labor disputes was outlawed. Additional legislation followed in 1933 with the National Industrial Recovery Act, which also endorsed the right of workers in the private sector to organize and engage in collective bargaining while forbidding employer interference in the selection of union representatives. However, neither the 1932 nor the 1933 Act contained effective penalties to force employer conformity to its statutory purposes (Bloom and Northrup, 1973: 593).

TABLE 1. UNION MEMBERSHIP IN THE UNITED STATES, 1930-1972

Year	Total Union Membership (Thousands)	Union Membership As Percentage of Total Labor Force
1930	3,401	6.8
1935	3,584	6.7
1940	8,717	15.5
1945	14,322	21.9
1950	14,267	22.3
1953	16,948	25.5
1956	17,490	25.2
1958	17,029	24.2
1960	17,049	23.6
1963	16,524	22.2
1966	17,940	22.7
1968	18,916	23.0
1970	19,381	22.6
1972	19,435	21.8

Source: U.S. Department of Labor (1975) Handbook of Labor Statistics 1975--Reference Edition.
Washington, D.C.: Government Printing Office.

The legally protected right for workers to organize came two years later with passage of the National Labor Relations Act of 1935, otherwise known as the Wagner Act. This legislation specified unfair labor practices on the part of the employers and prohibited them from refusing to engage in collective bargaining with their workers. The National Labor Relations Board was created as an enforcement agency. As Davey (1972: 56) has noted, "It is difficult to exaggerate the importance of the Wagner Act and the Board as instrumentalities for facilitating the rapid growth of unionism."

Union activities came under regulation in the Taft-Hartley Act of 1947, which specified unfair labor practices on their part. This act also compelled unions to bargain in good faith and granted employees the right to refrain from joining unions.⁴ Further restrictions on unions were contained in the 1959 Landrum-Griffin Act, which established a "bill of rights" for union members and imposed federal reporting requirements on the unions. Both the 1947 and 1959 Acts reaffirmed federal government support for the basic rights of organization and collective bargaining for employees in the private sector. In addition to the federal legislation mentioned above, almost all states have some legal provisions for the adjustment and settlement of private sector labor disputes within their geographic boundaries.

While legal steps have been made by the federal government to regulate and protect collective bargaining in the private sector, the rights of public employees have been neglected. For example, both the Wagner and Taft-Hartley Acts specifically excluded public workers from their jurisdiction, and prior to 1960 the courts almost without

exception held that public employees did not possess any constitutional rights to organize. In addition, the courts generally held that legislative bodies could forbid employees of their governmental units from joining or forming unions (Shaw, 1972: 21). During the 1960's, however, courts began to affirm the First Amendment right of public employees to join and form unions and look more critically upon state prohibitions of public employee unionism.⁵

Meanwhile, a most significant public sector labor relations initiative was promulgated by President Kennedy in 1962 through Executive Order 10988. For the first time, federal government employees were granted organizing and collective bargaining rights.⁶ Although the bargaining rights and scope of bargaining were not equal to those of private sector employees, this proved to be a substantial impetus for public employee unionism. In 1969, President Nixon issued Executive Order 11491 which modified the previous executive order. It provided for exclusive representation of federal employees, established the Federal Labor Relations Council to deal with policy matters, and formed the Federal Services Impasses Panel for dispute mediation and resolution. In 1970, postal employees were removed from the jurisdiction of the two executive orders and placed under the Postal Reorganization Act, which resulted in a broader scope of bargaining approximating that enjoyed by private sector employees (Shaw, 1972: 24-26).

State legislation in the area of public employee labor relations dates back to 1959, when Wisconsin passed the first comprehensive state law regulating public sector labor-management relations. Since that time, over 100 different statutes have been enacted by the various states (U.S. Department of Labor, 1976). A crazy-quilt pattern of regulations has

ensued, abetted by a myriad of court decisions, executive orders, attorney general opinions, and civil service guidelines. Some states, Iowa for example, have statutes which cover all public employees in a comprehensive fashion. Other states, such as Wyoming, concern themselves with a single occupational category--firefighters in this case. Still others, like Tennessee, specifically prohibit collective bargaining by public employees. In many instances, municipal ordinances in effect abrogate existing state policies or supplement them in dealing with local government employees. Confusion sometimes reigns between de jure and de facto interpretations of labor-management relations provisions at state and municipal levels because of various informal bargaining arrangements which may prevail.

The Growth of Public Employee Unionism

The birth and growth of public employee unions in the United States lagged considerably behind the private sector union movement. Public employee activism began in the 1830's during the Jacksonian period with the organization of workers in federal shipyards and municipal public works departments (Spero and Capozzola, 1973: 3). In a pattern similar to that experienced in the private sector, these first organized employees were the more highly skilled workers whose skills were in short supply. With the exception of the federal Post Office Department, organization proceeded at a slow pace until after World War I when policemen, firefighters, and teachers began to form self-help associations in large cities. The organizational activities of these local government employees were brought to a standstill by 1920, primarily as a result of the disastrous police strike of 1919 which generated adverse publicity with regard to public employee unionization.

Other factors restraining the growth of public sector unionism during the early part of the 20th century included: (1) the relatively high degree of job security granted to public employees, (2) superior fringe benefits and working conditions in the public sector, (3) the absence of legal protection for the right to organize, and (4) public employer resistance to public unions (Juris and Feuille, 1973: 11). Public employer resistance assumed various forms. For example, the legal status of public unions was questioned. The sovereignty doctrine was frequently invoked, along with the assertion that public services are a monopoly and the deprivation of these services through strikes constituted a threat to public health and safety. Some employers stressed the argument that civil service protection should be enough for public employees--unions would be superfluous.

Despite such obstructions, public employee organization began a new period of expansion after World War II, a time during which the private sector labor movement was approaching its zenith. Then, after the issuance of Executive Order 10988 in 1962, public employee unionism commenced a rather impressive period of growth, especially in state and local government. By the end of 1975, 51 percent of the 9.2 million state and local employees belonged to employee organizations in the United States (GERR, March 15, 1976: B-20).

A great many factors influenced the rapid growth of public employee unions during the 1960's. First, the heretofore superior fringe benefits, working conditions, and job security of public employment were equalled and then surpassed by firms in the private sector during and after World War II. As Zagoria (1972: 1) has noted:

For years and years public workers accepted working terms and conditions offered by public management with equanimity, and generally speaking, they were good ones: merit hiring, broad fringe benefits, almost absolute job security, and an assured income (not dependent on vagaries of weather, availability of risk capital, or the ebb and flow of fads and fashions). In truth, these were the trade-offs for the private sector unionism.

Today, public unions appear to have regained the lost ground in pay and benefits. This will receive further discussion in Chapter Two.

A second factor influencing the growth of public employee organizations was the general atmosphere of protest and social change which pervaded American public life during the 1960's (Shaw and Clark, 1972: 901). A growing sentiment began to develop among public employees that concerted, organized action was needed to protect their rights. This view was reflected by the emergence of the civil rights movement as a force in public employee unionism during the 1968 garbage strike in Memphis. The rallying cry of the sanitation workers, 90 percent of whom were black, stressed the human rights issue: "I am a man."⁷

One measure of the increased public employee political and social activism can be observed in the incidence of work stoppages in public employment (Table 2).

From Table Two, the tremendous rise in the number of strikes by public employees after 1965 can be seen, lending credence to the proposition that state and local government employees were caught up in the general feelings of societal discontent during the late 1960's. One might also note that after a slowdown in the incidence of work stoppages from 1969 to 1974, the number of strikes rose sharply in 1975, the most recent year for which data are available. In fact, the percentage of state

TABLE 2. NUMBER OF WORK STOPPAGES
IN STATE AND LOCAL GOVERNMENTS

Year	State Gov't.	Local Gov't.
1950	0	28
1955	1	16
1960	3	33
1962	2	21
1964	4	37
1965	0	42
1966	9	133
1967	12	169
1968	16	235
1969	37	372
1970	23	386
1971	23	304
1972	40	335
1973	29	357
1974	34	348
1975	32	446

Sources: Bureau of Labor Statistics (1976) Work
Stoppages in Government. Washington, D.C.:
Government Printing Office; GERR (February
2, 1977: 18).

and local government workers striking in 1975 (2.2 percent) for the first time equalled that in private sector employment (GERR, February 2, 1977: 18).

A third influence in the rapid increase in public employee organization was the movement of private unions into the public sphere. As Table 1 illustrates, private sector union membership has failed to keep pace with the growth in the total labor force since the mid-1950's. This is largely the consequence of a shift in the American labor force from goods-producing industries to service industries, and the concomitant growth in white-collar employment and decline in blue-collar jobs (Bloom and Northrup, 1973: 23-25). During this period of relative membership loss, the unions could not avoid the realization that in order to grow they would have to change with the nature of the labor force and recognize the public sector as a vast, untapped field for their organizational efforts. Movement into the public sector assumed two forms: (1) the lending of expertise and financial resources to existing public employee groups, and (2) the direct organizing of unaffiliated individuals. In turn, the public employees began to see themselves as holding the same position as the private sector mass production workers in the 1930's "numerous, needed, and neglected" (Tyler, 1972: 100). The techniques and results of private sector collective bargaining came to be appreciated and coveted.

Any discussion of the growth in public unionism must consider a fourth factor--the spillover effects of Executive Order 10988 on state and local government employees. For it was not until the 1962 directive was issued that the American states began to enact legislation governing

public employee unionism (with the exception of Wisconsin, which established the precedent in 1959). Such state legislation has been a major force in facilitating the spread of employee organization (Shaw and Clark, 1972: 901-04).

The final factor which was of major significance in the rapid increase in the organization of public employees in the 1960's was the sheer growth in the size of state and local government bureaucracies. This bureaucratic growth, along with such accompanying factors as the decline of patronage and the rise of the reformed institutions of government, has resulted in a depersonalization of public employment. Employee organizations have served as mouthpieces for individual and collective complaints related to the job, competing with and sometimes replacing relatively ineffectual civil service systems. One observer has even stated the belief that the public union is the successor, in many ways, to the old political machine (Nisbet, 1976: 30).

There is no doubt that a great expansion in state and local government employment has taken place.⁸ Table 3 reflects the increase in public employment from 1952 to 1975. It may be observed that the total number of full-time equivalent state and local employees has more than doubled since 1957. In 1947, about eight percent of the total American labor force was employed by state and local governments; in 1973, 12.4 percent worked for non-federal public employers. By 1985, it is estimated that the figure will reach 14.9 percent (GERR, December 13, 1976: D-1).

The growth in state and local employment has enhanced the development of public employee organizations which existed prior to the 1960's expansion period, and it has also helped increase the membership rolls

TABLE 3. OCTOBER EMPLOYMENT IN STATE AND LOCAL
GOVERNMENTS, 1952-1975 (FULL-TIME EQUIVALENT)

Year	Employment (Thousands)
1952	4,012
1953	4,126
1954	4,309
1955	4,487
1956	4,687
1957*	4,793
1958	5,171
1959	5,342
1960	5,570
1961	5,845
1962	5,958
1963	6,282
1964	6,586
1965	6,937
1966	7,263
1967	7,455
1968	7,879
1969	8,160
1970	8,528
1971	8,806
1972	9,237
1973	9,578
1974	9,852
1975	10,111

*1957 data are for the month of April.

Source: U.S. Bureau of the Census(1976) Public Employment
in 1975. Washington, D.C.: Government Printing
Office.

of private sector unions which have moved to organize in the public sphere. For the purposes of this discussion it should prove useful at this juncture to examine briefly the nature and size of these public employee organizations.

Employee Organizations in the Public Sector

At the outset it is important to distinguish between public employee "unions" and "associations." Stieber (1973: 223) provides one of the clearest differentiations. The primary purpose of a union, he states, is to bargain collectively in order to improve the wages, hours, and working conditions of its members. The primary purpose of an employee association, on the other hand, is to provide social interaction among the members and to advance their professional concerns. More specifically, "If they engage in collective bargaining and devote a major portion of their resources to representing employees in negotiations and grievances, they are unions" regardless of what they call themselves. In recent years, Stieber notes, some associations have become unions (Stieber, 1973: 223).

Beyond the basic delimitation suggested by Stieber, the situation becomes more complicated. Questions of national affiliation, level of government operation, and nature of the organization's membership often cloud the issue. For example, some local affiliates of a national public employee union may not engage in collective bargaining while other locals will. Is the non-bargaining local a union, an association, or something in between? Such questions do not lend themselves to an easy solution.

Notwithstanding the murky issues involved in defining a union vs. an association, it is helpful to follow Stieber a bit further, for

he provides us with a useful taxonomy of public employee organizations which will be adhered to in the following discussion (Stieber, 1973: 1-12).

All-Public Unions are those which are composed predominantly of public workers. The prime example is the American Federation of State, County, and Municipal Employees (AFSCME). The AFSCME was organized in Wisconsin by Arnold Zander in 1932.⁹ By 1970, it had become the seventh largest AFL-CIO affiliate. In 1976, it reported approximately 529,000 members and a growth rate of 3,000 new members each month (Table 4). Its organizing jurisdiction is quite broad, encompassing, in essence, any employee not working in private industry, the commercial labor force, or federal government employment. About one-half of its members are state government employees. The basic operating unit of AFSCME is the "council." At least one council resides in each of the 50 states to coordinate activities and provide services to the more than 2,280 locals.

Mixed Unions, drawing most of their membership support from the private sector, are the most prevalent type of union in the public sector (Stieber, 1973: 3). Three of them are strong in public employment: The Service Employees International Union (SEIU), the Laborer's International Union (LIU), and the International Brotherhood of Teamsters, Chauffeurs, Warehousemen, and Helpers of America (IBT). Like AFSCME, these three mixed unions are also classified as "industrial unions" because their jurisdictions include all workers within a particular industry regardless of skill or occupational speciality. Only AFSCME, however, limits its jurisdiction to the public sector. SEIU has had its greatest success in organizing hospital, school, and social service employees in municipal government. In California, it is currently the largest state and local employees union (Crouch, 1975: 5). The LIU's public sector membership is

TABLE 4. STATE AND LOCAL GOVERNMENT
EMPLOYEE MEMBERSHIP IN ORGANIZATIONS, 1976

Organization	Affiliation	Membership	Locals
NEA	Ind.	1,165,617	9,404
AFSCME	AFL-CIO	529,035	2,289
AFT	AFL-CIO	248,521	1,032
Civil Svc. Emp. Assn.(NY)	Ind.	202,000	288
ICPA	Ind.	170,000*	---
SEIU	AFL-CIO	161,000	---
IAFF	AFL-CIO	160,258	1,658
ANA	Ind.	156,665	52
FOP	Ind.	125,000	984
Cal. State Emp. Assn.	Ind.	103,000	192
AAUP	Ind.	85,614	1,329
IBT	Ind.	73,000*	---
LIU	AFL-CIO	29,000*	---

Source: U.S. Department of Labor (1976) Director of National Unions and Employee Associations. Supp. 3. Washington, D.C.: Government Printing Office.

*Estimated from 1970 data.

composed mostly of semi-skilled and unskilled construction workers. The IBT, with the smallest public sector membership of the three mixed unions, has been most active in organizing blue-collar state and local employees. Although more than 35 other mixed unions have been active in varying degrees within the public sector, they have had only limited success (Stieber, 1973: 5).

Uniformed Protective Services include state police and local government police and firefighters. The police are predominantly represented by two national organizations, the Fraternal Order of Police (FOP) and the International Conference of Police Associations (ICPA), although AFSCME and several unions affiliated with SEIU and IBT have been active in organizing local police forces. Organized firefighters belong overwhelmingly to an AFL-CIO affiliate, the International Association of Fire Fighters (IAFF). FOP, ICPA, and IAFF are considered to be all-public "craft unions" in that a single trade constitutes the basis for organization. The IAFF is the only public employee union which enjoys a virtually uncontested jurisdiction, as few firefighters belong to other national employee organizations (Stieber, 1973: 112).

State and Local Employee Associations predate most other public employee organizations and constitute the most serious competition for nationally-affiliated unions. While stressing local autonomy for their members, many state associations are loosely linked through a weak national organization, the Assembly of Government Employees (AGE). Few state and local employee associations engage in collective bargaining, although there are exceptions such as the New York Civil Service

Employees Association (Moskow, Loewenberg, and Koziara, 1970: 95). The largest state employee associations are located in New York and California.

Professional Associations, the final general category of public employee organizations, may be subdivided into three classifications. There are those which exist primarily for promotion of a profession, such as the American Medical Association (AMA), and the American Bar Association (ABA). Others concentrate primarily on promoting the economic well-being of their members, as illustrated by the American Federation of Teachers (AFT). A third group falls somewhere in the middle, continuing a concern for its members' professional interests while also serving as their representative in collective bargaining procedures. Examples of this type of organization include the American Association of University Professors (AAUP), the National Education Association (NEA), and the American Nurses Association (ANA). The American Medical Association may be moving in the same direction as the third group, as it has recently gone on record as favoring collective bargaining for physicians, reversing an earlier stand that bargaining is incompatible with good patient care (Monthly Labor Review, 1976: 56).

Table 4 provides information on the largest state and local employee organizations, their membership totals, national affiliation, and number of local affiliates.

Now that the history and legal environment of organized labor in the United States in general has been reviewed along with the nature and growth of public employee unions in particular, it is necessary to move toward the major thrust of this research--the impact of unions on the wages and benefits of their members. During recent years economists have made a number of attempts to construct an economic theory

of wage determination in private sector employment. One important element of most of these theoretical endeavors has been the role of unions in the wage-setting process. Before reviewing empirical results of the applications of "wage theory" to private sector wage determination, a summary treatment of the underlying elements of the theory as it has evolved throughout the past 200 years will be provided, with particular concern for the roles of unions.

Wage Theory and Collective Bargaining

Wage theory, as it has been developed over the past 200 years in Western Europe and the United States, has encompassed five general areas of inquiry: (1) the determination of the general level of wage rates, (2) the impact of unions on wages, (3) the wage structure, (4) the nature of collective bargaining, and (5) the labor supply and the labor market (Dunlop, 1957: 17). Although the primary concern in this research lies within the realm of the second area--the impact of unions on wages--a brief outline of the evolution of wage theory in general should be helpful in placing this specific interest within its broader economic context.

Economists divide the history of wage theory into three periods: classical, neo-classical, and contemporary. The classical period extends from the origins of wage theory about 200 years ago to the 1870's. It is composed primarily of the works of David Ricardo, Karl Marx, and John Stuart Mill. Ricardo's contribution of the "subsistence theory of wages" is grounded on the Malthusian population principle, asserting that average wages, in the long run, conform to the subsistence level in the economy. According to Ricardo, an increase in the wage rate above subsistence would result in an increased birth rate and therefore, an

expanded supply of labor. The large labor supply would, in turn, eventually bring the wage rate back to subsistence levels by operating in accordance with the law of supply and demand. On the other hand, if the wage rate decreased in the short term, starvation and rising mortality rates would reduce the supply of labor, pulling the wage rate back to the subsistence level (see Ricardo, 1911, for the complete exposition of the subsistence theory).

Marx's "exploitation theory of wages"¹⁰ has never received much credence from conventional economists. More influential has been Mill's "wage-fund theory" which, like the subsistence theory of wages, is predicated on the free play of market forces in accordance with supply and demand. The wage fund, according to Mill, is the sum of the individual wages paid by all employers. If the average wage rate is set too high, unemployment will result; if set too low, the demand for labor will exceed the supply. In the long run, wages tend toward the subsistence level, as market forces keep wages and employment in equilibrium (see Miernyk, 1965: 345-46).

The second period in the history of wage theory, the neo-classical, is dominated by the "marginal productivity theory." Although it has received many modifications over the years, marginal productivity theory originally assumed perfect competition, perfect knowledge, and the other theoretical baggage of conventional economics (see Douglas, 1934: 68 for a listing of the 10 "implicit assumptions" of marginal productivity theory). According to Cartter (1959: 19), the theory states, in essence, "that there is a direct functional relationship between the level of wages and the level of employment." The key concept of the theory is the "marginal value product"--the net value added to the product

by using one more unit of labor. The theory asserts that the forces of labor "tend to be distributed among firms and industries in such a manner that the value of labor's marginal product would be equal in all enterprises," with the wage rate the same for all workers of a given skill class. Thus, through the demand for and supply of labor, the labor market would function in a state of equilibrium (Chamberlain and Kuhn, 1965: 312-13).

Neither the original marginal productivity theory nor its predecessors in wage theory adequately account for "imperfections" in the marketplace. The initial effort to treat a major imperfection--the trade union--marks the inception of the contemporary period of wage theory. In his 1932 restatement of marginal productivity theory, J.R. Hicks introduces a concept of bargaining power to account for trade union influence in setting wages. According to Hicks, there exists a functional relationship between the wage rate that either employer or employee will accept and the length of a strike that would be necessary to establish that wage. He illustrates this relationship through an "employer's concession curve" showing trade-offs for the employer of the anticipated costs of potential wage concessions versus the anticipated costs of a strike, and a "union's resistance curve" indicating the length of time the union would strike for various wage gains (see Chamberlain and Kuhn, 1965: 167).

Despite efforts such as Hicks' to deal with the assorted problems which detract from the efficacy of the marginal productivity theory, these modifications "have either failed to meet basic objections or have robbed the theory of much of its significance ..." (Chamberlain and Kuhn, 1965: 321). As a consequence, two more recent approaches to a theory of wages have been developed.

The first, generically known as "bargaining power," rejects market forces as being dominant in determining wages and argues instead that it is the process of bargaining itself which predominates in setting wage rates (Miernyk, 1965: 350). Beyond an upper and a lower limit of wage rates, the price of wages is theoretically indeterminant. Pigou (1932) attempts to explain the range of these upper and lower limits. Others (Pen, 1952; Chamberlain, 1965; Bierman and others, 1965; Schelling, 1956; Stevens, 1963) undertake the tasks of defining bargaining power and applying the concept in order to analyze the outcomes of various bargaining tactics. Walton and McKersie (1965), in an influential study of bargaining theory, stress the importance of interpersonal and intergroup behavior rather than economic variables. They identify four separate bargaining processes, each with a different goal: (1) distributive bargaining, in which the goal is the maximization of one party's share of the benefits of collective bargaining; (2) integrative bargaining, where both parties seek to resolve problems and mutually benefit from the process; (3) attitudinal structuring, with each party seeking to achieve and maintain a desired working relationship with the other party; and (4) intraorganizational bargaining, where each party tries to influence its own constituents to accept necessary bargaining compromises. Peterson and Tracy (1977) subject Walton and McKersie's theory to empirical testing and generally confirm it, finding that "overall, bargaining behavior and conditions seem to have as much effect on bargaining as do the economic variables." In another effort, Atherton (1973) also builds on the work of Walton and McKersie in an attempt to discover how different union bargaining objectives are determined. Although bargaining theory as it has developed in the works above has had some influence on wage theory

in general, it has suffered a great deal because its basic concepts are difficult or impossible to operationalize satisfactorily (see Johnson, 1975: 24).

The second movement in contemporary wage theory is often called the "institutional approach." This approach widens the traditional theoretical confines of economics to include a concern for and emphasis upon the political factors influencing wage determination. Ross (1956) and Kerr (1964) are leading proponents of this school, which holds that a trade union is a political entity operating in an economic environment. While economic factors underlie the bargaining process, political forces are the major determinants of the bargaining outcome (Ross, 1956: 12). Ross (1956: 30) rejects the heretofore sacrosanct wage-employment relationship (e.g., other things being equal, if wages go up, employment goes down) and, in an argument drawn in part from the earlier work of Michels (1949), states that the primary goals of union leadership are to maintain their own leadership positions and insure the survival of the organization itself. In short, Ross challenges the relevance of the traditional economic model and its assumptions in determining the outcome of wage bargaining.

The institutionalists' view has not itself gone unchallenged. Dunlop (1950) in particular has rejected their argument, insisting on the importance of market forces in determining wage rates. To support his position he constructs economic models of the trade union which operate under the conventional economic assumptions of a free market. The union is seen as an economic decision-making unit with the primary objective of maximizing wages and the conditions of employment for its members (Dunlop, 1944).

As one might presume from the preceding discussion, economists are not of one mind with regard to the factors determining wages or the specific role of unions in setting wages. Probably, the truth lies somewhere in between the opposing viewpoints and also somewhere within each point of view. Certainly, the economic environment surrounding a firm establishes boundaries for wage determination. Competition, profit levels, geographical location, consumer product demand, quality of the labor force, factors in the larger economy, and many other economic variables affect the wage-setting outcome. But where unions are present to create a bilateral wage determination situation, the politics of decision-making also forces itself into the picture with employers and union representatives maneuvering as political actors on the bargaining stage. The Ross-Dunlop debate has served to focus attention on the basic issue of the relative importance of economic variables as opposed to political variables in determining wage changes under collective bargaining. Resolution of the issue will require careful, empirical study of diverse bargaining outcomes occurring in different time periods.

The question at issue in the present study, however, is what difference (if any) unions make in the compensation received by their membership compared to the compensation of nonrepresented employees.

As Davey (1972: 250) has stated:

the unions demand for upward wage or salary adjustments continues to be the paramount issue at the bargaining table. Other issues may take the spotlight on occasion, in particular negotiations, but the principal business of the American trade union remains that of improving the economic position of the employees it represents.

Has the American trade union been successful, and if so, to what extent?

The Impact of Unions on
Employee Compensation in the Private Sector

Although the term "compensation" refers to the monetary value of wages or salaries and fringe benefits (e.g., retirement plans, medical plans), studies in the private sector have focused almost exclusively on the impact of unions on employee wages. The treatment of fringe benefits is a rarity.

Typically, unions are viewed as operating within the context of one or more of the variants of wage theory. Their impact on wage levels and/or wage structure is then determined empirically through the use of various econometric techniques. Research findings with regard to the union influence on overall wage levels within the economy are often contradictory; there seems to be very little agreement among economists (see Miernyk, 1965: 370). The concern here is with the union impact on wage structures, particularly variations in wages between union and nonunion industries, firms, and occupations. Although there is general agreement on the union effects on intra-industry and intra-occupational wage structures (they tend to eliminate or narrow wage differentials within industries and job categories), there is much less agreement on the degree of union influence when comparisons are made between different industries and occupations.

Dunlop, for instance, is a leading proponent of the view that unions exercise no distinctive impact on wage variations between industries. He states that inter-industry differentials are, instead, due to changes in productivity, output, labor cost ratios, changing skills, and other economic factors (Dunlop, 1957). Ross, to the contrary, shows that unions have had an impact on the wage structure by widening

inter-industry differentials (Ross, 1956). In general, the Ross proposition has come to prevail in the literature. The remainder of this section will review the empirical findings of economists regarding the monetary impact of unions on wages in the private sector. Then, an accounting will be taken in an effort to glean findings and conclusions which could prove helpful in this study of the union influence on compensation in public sector employment.

The pioneering efforts in the private sector are those of Douglas (1930), Ross (1948), Garbarino (1950), Ross and Goldner (1950), Levinson (1951), and Sobotka (1953). Douglas (1930: 562), in his groundbreaking study of six unionized and eight nonunionized industries finds that

During (the 1890's) and the early years of the present century, the unionists were able to secure for themselves appreciably higher wages and shorter hours than the mass of the workers Since 1914, however, the wages in the manufacturing industries have risen at least as rapidly as have those in the union manufacturing trades. The evidence (indicates) that when labor organization becomes effective, it yields very appreciable results in its early stages, but that thereafter the rate of gain enjoyed by its members tends to slow (to about that of non-union industries).

Ross, however, re-examines Douglas' statistics and argues that a serious methodological error is present in Douglas' interpretation of the data. When properly interpreted, the data show unionism was a continuing source of wage advantage from 1890-1926, not just an initial source of wage gains (Ross, 1948: 114). This finding holds true in an examination of similar data for 1933-1945, in which Ross (1948: 114) finds "real hourly earnings in highly organized industries are not only higher, but also have risen more sharply than in less organized industries."

Ross' conclusions, in turn, are called into question by Garbarino, who finds a much smaller union effect than did Ross when examining similar

data for 1923-1940 with a different statistical technique (Garbarino, 1950: 289). Retreating somewhat in a follow-up study, Ross and Goldner (1950: 267) conclude that "new (unionization) has been a source of relative wage advantage during the 1933-1946 period whereas continuing (unionization) has not." This conclusion is supported by Levinson (1951), who determines that the largest wage increases occurred during the 1930's--a period of new unionism--within industries undergoing the greatest increases in unionization. The relationship did not hold for 1942-1946, but this was a rather atypical period during which the War Labor Board administered wage controls. Levinson (1951: 215) offers the additional insight that unions may hold up the wage levels in an organized industry during a depression, a time when wages in unorganized industries usually fall.

Generalizing from the evidence presented in these early studies, it would appear that new, growing unions have been a source of some wage advantage to their workers since 1890 with the exception of the World War II period. However, continuing unionism does not appear to generate wage differentials except during periods of economic depression.

Following these initial efforts has been a substantial number of studies which have examined the impact of unions on private sector wages. The most ambitious undertaking within this subject area to date has been H.G. Lewis' Unionism and Relative Wages in the United States (1963), which provides a useful summary of the relevant literature through 1962 and includes original research by the author himself.

Lewis' concern is with the intra-industry relative wage effects of unionism, in terms of the ratio of the wages per hour of union labor to the average hourly wage of nonunion labor. After reviewing what he

calls the "economy-wide" studies of Ross, Ross and Goldner, and Levinson, he modifies their data in order to estimate the average relative wage effect of unions among the industries concerned.¹¹ Lewis determines that the wage effect of unions was 15-20 percent in the late 1930's and early 1940's, 7-10 percent from 1944-45, and less than five percent for 1946-47. The data, notes Lewis, indicate the tendency for the relative wages of unionized workers to increase during periods of rapid deflation (recessions) and decrease during periods of rapid inflation (Lewis, 1963: 155).

In examining earlier studies focusing on the union impact within a single industry, Lewis again, where necessary, calculates relative percentage differences for the wages of unionized and nonunionized workers. He shows that Rees' (1962) data indicate that for 1945-58 in the steel and coal industries the relative wages of production workers were about the same regardless of the presence of unions, but that in 1939 there was a positive, perhaps substantial, impact of unionism on the relative wages of these workers. Lewis reports that Scherer determined in his 1951 dissertation that hotel employees in union-dominated cities enjoyed a 10 percent higher relative wage than their counterparts in nonunion cities during 1939 and 1948. Modifying Sobel's data on the rubber tire industry, Lewis (1963: 61) estimates that the union effect on relative wages of tire production workers was roughly 10-18 percent in 1936-38 and about half that large during 1945-48. A reinterpretation of Sobotka's data suggests the conclusion that unionization forced relative wages 25 percent higher for skilled tradesmen and five percent higher for unskilled workers in the construction industry during 1939 (Lewis, 1963: 63). From Maher's 1956 article, Lewis (1963: 80-86) obtains union/nonunion wage differentials for various industries as follows:

paints and varnishes	0%	hosiery	4%
wooden furniture	6%	auto parts	12%
footwear	-3%	women's dresses	7%
cotton textiles	2%		

Finally, Lewis considers the findings of Rayack (1958), in which the union effect on wages in the men's clothing industry is found to be less than five percent, and the results of Lurie's 1961 article on the transit industry. The latter effort reveals that unions increased the relative wage rate of transit motormen by 15-20 percent during the 1920's, 20-25 percent in the Great Depression, less than six percent in 1938, and less than 10 percent for 1948.

Lewis acknowledges many possible sources of bias in the estimates reported above, resulting primarily from (1) incomplete controls over factors other than unionism which affect wages, and (2) errors in estimation. He concludes, however, that all things considered, the average relative effect of unionism on wages of American workers has been greatest during periods when rapid inflation did not prevail, equalling at least 10 percent during these periods (Lewis, 1963: 191). The union effect ranged from 25 percent in the mid-1930's to less than five percent from 1945-49, and 10-15 percent in the late 1950's. It appears that the union impact is greatest during economic recessions and least in strongly inflationary periods. Thus, the degree of union influence on wages varies directly with the state of the overall economy. Lewis speculates that the reasons for this phenomenon are that (1) collective bargaining contracts frequently are in effect for more than one year, thus causing wage increases to lag behind inflationary price increases, (2) union

employers are reluctant to permit large wage increases during such periods, and (3) unions are resistant to wage cuts even during recessionary periods (Lewis, 1963: 5).

Following the comprehensive study by Lewis, other economists have used different data and techniques to estimate the difference between the earnings of union and nonunion workers. Using multiple regression analysis, some have not attempted to calculate an absolute percentage differential but have, instead, simply indicated whether or not a statistically significant relationship was found between unionism and higher wage rates. Using a union/nonunion dummy variable, Eckstein and Wilson (1962) discovered a significant association for three out of five time periods in the rubber, primary metals, and transportation equipment industries. However, two economic variables--profit rate and unemployment rate--were sufficient to explain most of the variation in the increase in industry wage rates. Kaun (1964: 406) controls for size of the work establishment, city size, occupation, and other variables, finding "overwhelming evidence that union rates are higher than nonunion rates." Kaun's findings are corroborated by more recent research conducted by Bailey and Schwenk (1971). Controlling for similar variables in 1968, these authors conclude that the earnings differentials associated with unions are significant in both absolute and relative statistical terms. Similar results are obtained by Mason (1971), although she finds that the union/nonunion wage gap was narrowing during the last half of the 1960's.

Following in the tradition of Lewis, other economists have computed percentage differentials for union and nonunion workers in both cross-sectional and time-series regression analysis. Throop (1967) estimates the average hourly earnings differential for private, nonfarm

production and nonsupervisory workers to be 26 percent, when controlling for quality of the work force and other factors. Weiss (1966) calculates that 1959 earnings differentials favored union craftsmen and operatives by about 30 percent, while Stafford (1968) finds the 1965 differences to be 24 percent for craftsmen, 26 percent for operatives, 52 percent for laborers, and 18 percent for clerical and sales workers. In a study of 31 manufacturing industries from 1960-1965, Clover (1968) reveals an 18 percent earnings differential between union and nonunion plants. Fuchs (1968), however, finds the union/nonunion gap varying between 18 and 35 percent. More recently, Rosen (1970) and Boskin (1972) report a range of union/nonunion wage differentials of 15 to 25 percent. and Hammermesh (1971) finds the difference to vary from five percent for clerical workers to 20 percent for blue-collar employees. Ashenfelter and Johnson (1972) estimate a union/nonunion wage differential of 0 to 20 percent for 19 manufacturing industries. Finally, Ryscavage (1974) uses the 1973 Current Population Survey in determining that the hourly earnings of organized craft workers exceed those of unorganized craftsmen by 20 to 25 percent.

One conclusion readily emerges from this large number of studies: the union/nonunion earnings differentials during the years since Lewis' work generally exceeded those of the 1950's. Whereas Lewis calculated a differential of 10-15 percent for the 1950's, more recent studies have shown the range to be quite a bit higher--closer to 20-25 percent. The reason for the larger, more recent differentials (which approximate those computed by Lewis for the 1930's) is probably multifaceted. In part, they may be the product of improved data and statistical techniques. On the other hand, unions today simply may be more successful in gaining economic rewards for their members. Whatever the cause for the larger

differentials computed since Lewis' study, it is important that such studies as those mentioned above be examined in order to ascertain which variables and techniques might prove helpful in an effort to determine the influence that unions might exercise on compensation in the public sector. In the chapter which follows on wage theory in public employment, hypotheses related to the reasons for union/nonunion compensation differentials will be considered. Now, however, the study will turn to nonunion factors which influence wages.

The Determinants of Wages

Although most economists are in agreement that unions do have a positive impact on employee earnings, there has been a great deal of discussion surrounding the other variables which may influence wages. It is important that these variables be examined, for in order to isolate the impact of unionism one must hold constant or otherwise account for as many other factors which affect wages as possible.

Within the literature one may discover a broad consensus among economists on the salience of certain variables in determining the wage rates paid various private sector employees. These variables are geographic region, size of establishment, profit levels, quality of the labor force, cost-of-living, comparative wage standards, and the wider economy. Each will be discussed below. In Chapter Two, the relevance of these and other variables to wage determination in the public sector will be considered.

Geographic wage differentials have long been recognized to exist. In general, wages are highest in the mid-Atlantic, Great Lakes, and Pacific states; average in New England and parts of the Midwest; and

lowest in the South. Within regions, wages tend to be lowest in small communities and highest in metropolitan areas (Miernoyk, 1965: 378). Scully (1969) associates these geographical differentials with five variables: (1) variations in the capital/labor ratio, (2) differences in education of work force, (3) variations in the percentage of nonwhite and (4) female production workers, and (5) union activity. With regard to this last influence, however, Reynolds (1974: 565) disagrees, stating that "most unions in the majority of industries have probably had little effect on geographical differentials, either because of the local-market character of the industry, or because of union weaknesses in one or more regions, or because the union has not found it expedient to aim at geographic equality." Still, geographic location must be taken into consideration in any wage-related research which is not confined to a single locale.

A second effect on the wage rates is the size of the establishment (firm) itself. Wages normally are higher in larger plants for several reasons: (1) large firms are more likely to be located in densely populated communities; (2) large firms are expected to take the lead in wages paid; (3) the quality of labor is higher in larger plants; and (4) large plants simply have a greater capacity to pay higher wages to their workers (Lester, 1967: 62-64). It is important to hold constant the size of the firm because of the above reasons, and also because larger firms are more susceptible to unionization (Reynolds, 1974: 199). Thus, larger firms, which tend to pay superior wages, are also more likely to be unionized. If size of establishment is not held constant, there may be a bias in the favor of wages in larger firms of 20 to 25 percent on a national basis for most industries (Lester, 1967: 66-67).

Furthermore, the dollar value of benefits granted to employees of large establishments are frequently twice those awarded to workers in small firms (Lester, 1967: 67).

Profit levels represent a very important consideration on the part of both unions and management in determining the amount of wages offered to or demanded by workers. Disregarding increases in worker productivity or reductions in the number of workers employed, a firm must pay for wage increases out of its annual profits. We should expect that highly profitable firms and industries will, *ceteris paribus*, pay their employees higher wages than less profitable concerns. Indeed, Howard and Tolles (1974) find that wage changes from 1950-1970 in major manufacturing industries are strongly associated with the profit rates of these industries two to five years prior to each wage adjustment. Others (for example, Levinson, 1967; Foran, 1973) have also asserted that the size of wage increases has been strongly correlated with profit levels. Thus, if those firms and industries which are highly profitable typically pay their employees above average, and if those same firms and industries also happen to be the most highly unionized, then unless one holds constant the influence of profits, the statistically arrived at effect of unions on wage rates will be unduly strong. Therefore, firm or industry rates of profit should be taken into account when estimating the impact of unions on wage rates.

The quality of the labor force is a fourth factor which economists agree plays an important part in wage determination. Primarily because of the lack of adequate data, most of the earlier wage studies did not attempt to hold constant worker "quality,"¹² which can be measured by education, race, age, sex, or training. More recent studies have

controlled for some worker characteristics and confirmed them to be statistically significant determinants of wage rates (see Boskin, 1972; Ashenfelter and Johnson, 1972; Ryscavage, 1974). The reason for this concern with labor force characteristics, of course, is that a wage comparison of union and nonunion workers would be likely to offer spurious results if worker quality were not held constant. For example, other things being equal, whites generally earn higher wages than blacks, men earn more than women, and well-educated persons make more money than the less-educated. In comparing a union firm whose employees are mostly white, male, and college-educated with a nonunion company whose workers are predominantly black, female, and high school graduates, it would be highly probable that the former organization would pay its employees more than the latter regardless of whether unions were present or not. Thus, such a comparison would be meaningless unless the relevant worker characteristics were held constant. As for what difference it makes with respect to the degree of influence unions exert on wages when nature of labor force is held constant, the evidence is conflicting. Boskin (1972), for example, when quality of work force is considered, obtains a differential in favor of union workers of 15 percent for craft workers and 25 percent for laborers, and almost no difference for service, sales, and managerial personnel. Ryscavage (1974), on the other hand, calculates an earnings advantage of 20 to 25 percent for union craft workers and 16 percent for union service workers. Ashenfelter and Johnson (1972) find the wage advantage varies from 0 to 10 percent for all union workers in 19 manufacturing industries when they control for quality of the labor force.

A fifth factor generally believed to influence wage rates is the prevailing cost-of-living. As previously noted, this may vary in accordance with region of the country and urban or rural locale, since wages tend to be higher in certain geographical regions and within large metropolitan areas. Therefore, empirical estimates of union wage effects which do not limit their area of investigation to a single locale may suffer from this bias. If the cost-of-living is higher for employees in "union cities" or "union firms" due to their urban location, for instance, failure to standardize for cost-of-living variations will impart an upward bias to estimates of union wage effects. Unfortunately, this bias cannot be directly eliminated from most studies since cost-of-living estimates are available from the Bureau of Labor Statistics for only a relatively small number of cities (see Hammermesh, 1971: 160).

Perhaps even more important in establishing wage rates than cost-of-living variations are comparative wage standards. Both employers and employees look to wage rates prevailing in neighboring occupations, industries, cities, etc., in determining their own wage offers and demands. As Bloom and Northrup (1973: 322) have noted, many firms consciously keep their employees' wage rates in line with those paid by certain key firms within the same industry, called "wage leaders." Or, they may be kept competitive with wages paid by key firms in other industries. Dunlop (1957: 17) has referred to those firms which exhibit similar product markets as falling within various "wage contours." Ross (1956) has labelled the process as one of setting "standards of equitable comparison." Whatever terminology is used,¹³ some economists have attempted to capture the comparative wage standard variable through the use of a surrogate measure called the "opportunity wage" (the wage that

would be available to the same individual for work in a similar occupation in another firm, industry or geographical location). As long as the opportunity wage indicator reasonably can be presumed to vary directly with the actual wage standard used by labor and management negotiations, this would appear to be a good course of action on both theoretical and empirical grounds.

A final influence which economists generally agree to be of salience in determining the wage rates paid various workers is the condition of the wider economy. This is what Lewis (1963) attributed to be of major consequence in accounting for the changing union/nonunion wage differentials during the first half of this century. Of course, in a cross-sectional analysis the condition of the economy is a constant. But when using time-series, such factors as unemployment and the inflation rate must be taken into account. As noted by Lewis, the length of a union contract is a variable which can affect the response of employee earnings to changes in the economy. Union wages frequently are adjusted every one to three years in accordance with a contract, while nonunion workers usually receive wage adjustments less often. As a result, "nonunion workers, when their wages are changed, typically receive somewhat larger percentage raises than do unionized workers (but) the fact that their pay is adjusted less frequently ... results in their receiving somewhat smaller total adjustments over a period of years" (Davis and David, 1968: 40). However, nonunion firms respond more sharply to fluctuations in the economic climate than do union firms (Davis and David, 1968: 43). Time-series analyses dealing with wage changes over a period of years should take into consideration such variables as the prevailing rates of inflation and unemployment

because of the varying impact of such broad economic factors on union and nonunion firms.

Whereas most economists are in accord with regard to the prominence of geography, size of establishment, profit levels, nature of labor force, cost-of-living, comparative wage standards and the wider economy in determining wage rates, less uniformity exists when other variables are considered. Nonetheless, it may prove helpful to briefly identify and discuss two further variables which may be relevant to a public sector analysis: degree of monopoly in the product market and noneconomic factors.

The issue of a presumed relationship between the competitive character of a firm's product market and the ability of a union to gain wage increases is marked by differences of opinion among economists. Several empirical studies have determined a strong relationship over time between the degree of monopoly in the product market (as measured by the degree of product market concentration), inter-industry wage increases, and the extent of unionization (see Ross and Goldner, 1950; Segal, 1964; Weiss, 1966). This is supported theoretically by the argument that highly concentrated product markets (1) protect existing unions from nonunion competition by restricting the freedom of entry of nonunion competitors; and (2) place unions in a favorable position to make aggressive wage demands since there is a lack of downward price pressures (Levinson, 1967: 200). Furthermore, unions are more likely to enter firms operating within monopolistic product markets due to (1) lower organizational costs per union member; and (2) their ability to more easily retain workers in concentrated industries once they are brought into the union (Ashenfelter and Johnson, 1972: 498).

Other studies (Rees, 1962; Lewis, 1963) question the existence of the product market monopoly-wage increase-unionization triad on both empirical and theoretical grounds, asserting that for various reasons, a union's ability to achieve wage increases may actually be hindered by the presence of greater concentration in the product market. Levinson (1967) attempts to reconcile these opposing positions by demonstrating that highly concentrated industries are characterized by entry barriers to new firms because of high capital requirements, brand names, and other factors, thereby enabling these large firms to resist union pressure more effectively. Also, wages are normally high in such firms and unions may not add much to the payroll. On the other hand, once a union has established itself within the industry, it is better able to control its membership jurisdiction as no new firms will enter the market (see Levinson, 1966: 265-66). This high degree of organizational strength helps the union exert greater pressure for wage increases. Thus, Levinson (1967: 205) sees a high degree of product market concentration as having a two-edged effect. In his words, "It can provide the union with greater protection against the entry of non-union competitors, and thus help to maintain the union's jurisdictional strength within the industry. Yet at the same time, it is also associated with fewer firms of larger size and greater financial reserves which are able more effectively to resist union pressures." (A leading example of this type of concentration effect would be in the highly oligopolistic automotive industry). Whether the unionism-wages-concentration relationship is positive, negative, or mixed, it would appear useful to attempt to confront the relationship in statistical terms in any empirical investigation concerning unions and wages.

The relevance of noneconomic considerations to the outcome of the wage-setting process has been a leading concern of economists, as exemplified by the Ross-Dunlop debate outlined earlier. Levinson (1966: 17) has divided these noneconomic factors into two groups: "political" variables and "pure power" variables. Illustrations of political variables are inter-union competition and leader prestige. The power concept may be represented by the ability of a union to initiate and maintain a strike and the countervailing capability of an employer to resist such action. The dynamics of the power process can be measured by qualitative judgments of internal union strength, union militancy, and member cohesiveness (Levinson, 1966: 272-73). According to Levinson, who assigns quantitative values to the political and power variables, these noneconomic factors are limited by the basic economic environment within which they operate (Levinson, 1966: 270).

Other economists have provided a somewhat different explanation of the noneconomic factors impinging on the wage-setting process. For example, Atherton (1973: 137) and Davey (1973: 257) perceive union leaders to be political agents acting as representatives of groups of employees. As elected political agents, they cannot always act as economic men, but they must instead concern themselves with issues of union survival and their own personal survival as political leaders. In a recent article, Tracy (1974) attempts to identify certain noneconomic factors which influence union and management negotiators. He concludes that a negotiator's acceptance of a contract depends on several significant noneconomic considerations: perceived equity of the new contract, perceived achievement, interpersonal relations between the parties, the nature of the work itself, favorable recognition, and team policy and

administration. However, these variables accounted for less than half of the variance in the attitudes of negotiators toward settlement, pointing to the inherent difficulty involved in any effort to quantify subjective attitudes. It would appear that while the salience of noneconomic factors in the wage-setting process goes uncontested, the feasibility of building them into statistical research designs must be questioned, with the exception, perhaps, of a case study context.

Summary

This chapter has discussed many factors which economists have observed to be of importance in determining wages in industry. All of these elements should, if possible, be taken into account in any attempt to isolate the impact of unions on wages. If not, they may exercise confounding effects which are likely to confuse the effect of unions with other forces which operate whether unions are present or not. The best way to remove these effects from the data is through the use of statistical procedures. This problem as it relates to unions within the public sector will be confronted in the latter portion of the next chapter. But prior to embarking on this task it is necessary to distinguish between the nature and environment of collective bargaining within the public and private sectors, in order that one may discern whether or not the determinants of employee compensation are similar. The private sector experience may or may not be relevant to an assessment of the union impact of wages and benefits of public employees. The next chapter will consider this issue in detail.

NOTES

1. Bloom and Northrup (1973: 724-26) speculate that declining union membership may be attributed to union leadership, which has responded slowly to the shift in the labor force from blue-collar to white-collar employment and which has been unable or unwilling to develop a new union ideology to appeal to new members of the labor force.
2. Much of this discussion is taken from Juris and Feuille (1973: 6-9) and Bloom and Northrup (1973: 33-69). For detailed descriptions of the provisions and results of the various labor legislation, see Bloom and Northrup (1973: Part VI).
3. The term "collective bargaining" was coined in 1891 by the Fabian writer and historian of the British Labor Movement, Mrs. Beatrice Webb. See Bok and Dunlop (1970: 207).

A useful and comprehensive definition of collective bargaining is provided by Davey (1972: 2), who states that it is:

a continuing institutional relationship between an employer entity (government or private) and a labor organization (union or association) representing exclusively a defined group of employees of said employer ... concerned with the negotiation, administration, interpretation and enforcement of written agreements covering joint understandings as to wages or salaries, rates of pay, hours of work and other conditions of employment.

The relationship is "collective" in that two groups are represented

by collective entities: the employees by their defined bargaining unit and the employer, or management, by a similar unit.

4. This is the famous, or infamous, Section 14(b), the "right to work" clause.
5. For example, see Atkins et al. and IAFF vs. City of Charlotte, 296F. Supp. 1068 (1969) which voided a North Carolina law prohibiting membership of firefighters and police in labor organizations.
6. During 1975 and 1976, Congress considered a number of bills aimed at federal regulation of state and local employee relations. Two of these bills (H.R. 9730 and S. 3294) would have amended the National Labor Relations Act to cover state and local employees. Others (H.R. 8677 and S. 3295) would have established a separate National Public Employment Relations Commission to implement a National Public Employment Relations Act. All bills would have granted state and local employees as a whole the right to organize and bargain collectively. All would have superceded existing state and local legislation and any other statutes or ordinances inconsistent with the new law. Public Management (1975: 10-12) provides a lengthy description of these proposed bills. Although there has been some discussion on the introduction of similar bills in the 95th Congress, a recent Supreme Court decision has cast some doubt on the constitutionality of such legislation (National League of Cities vs. Usery, 44 U.S.L.W. 4974 (June 24, 1976). For the general public employee union position in urging a "Wagner Act for public employment," see Flynn (1975).
7. For a detailed description of the 1968 garbage strike in Memphis and its ramifications see Billings and Greenya (1974: 171-219). This

episode marked the entry of national civil rights leaders into the public employee organizational struggle. National figures such as Bayard Rustin, Roy Wilkins, and Martin Luther King, Jr. (who was assassinated during the strike) helped the sanitation workers fight for union recognition.

8. This is in marked contrast to the situation in federal government employment. Federal civilian employment reached its peak of 3.4 million workers during World War II, then was reduced to 2.0 million by 1947. It increased to 3.0 million in 1967 and has since decreased by about 0.1 million (U.S. Bureau of the Census, 1976).
9. For a history of the AFSCME, including the fascinating power struggle between Zander and current president Jerry Wurf, see Billings and Greenya (1974).
10. This is primarily because of the value-laden nature of Marx's theory.
11. Lewis' estimating effect for the relative wage advantage of the ith worker, industry, or occupation is determined through the equation

$$\log w_i = \beta U_i + Y_{xi} + \epsilon_i$$

where w_i is the wage, U_i is a 0,1 dummy representing union membership (or the average percent union membership for aggregate data), and x_i is all other variables which influence wages. ϵ_i is a random error term. The estimated value of β is the effect of unionism on relative wages.

12. In this research, "quality" of the labor force will be referred to as "nature" of the labor force. Considering male, white, highly-educated workers as being of higher quality than other employees tends to suggest a questionable bias.

12. A related phenomenon is what has become known as the "threat effect." This term refers to the influence that the threat of future unionization presents to nonunion employers. It is possible that an employer's fear of the consequences of unionism could lead him to increase the wages of his workers in order to prevent them from unionizing. If the threat effect does influence nonunion wages, then the measured effect of unions on wages would be understated, unless a satisfactory means of operationalizing the effect is included. This issue will be dealt with to some extent in later chapters.

CHAPTER TWO

UNIONS AND COMPENSATION IN PUBLIC EMPLOYMENT

In the abstract, the process of collective bargaining between employer and employee may be thought of as being similar in the public and private sectors. Within both spheres (1) the employer must reward his workers with adequate pay and benefits in order to attract and keep qualified personnel; (2) employer and employees must agree upon certain conditions and limitations of employment; and (3) individual and collective needs for recognition, security, progress, a sense of belonging, and other concerns must be met (Stanley, 1972: 19). Public and private sector labor relations also hold in common some specific areas of interest including matters of union jurisdiction and representation, election procedures, grievance arbitration, the scope of bargaining, the strike issue and, most important, the determination of wages and benefits. Nonetheless, there exist substantial differences in the structure and process of collective bargaining between the two spheres which hold important implications for the determination of employee compensation levels. In this section the nature of collective bargaining in the public sector will be viewed as diverging from that in the private sector in (1) legal environment; (2) economic environment; (3) organizational relationships; and (4) political activity.

The legal environment of private sector labor relations has been standardized and rationalized since the Norris-LaGuardia Act of 1932, while public labor relations have evolved in the patchwork fashion outlined briefly in Chapter One. Federal government labor relations and collective bargaining are presently regulated through Executive Orders 10988 and 11491, the Postal Reorganization Act of 1970, and the Federal Pay Comparability Act of 1970. But the legal environment of state and local government labor relations is highly variable. Where some states have passed comprehensive and coherent legislation regulating employer-employee relations, other remain silent on the issue. Local governments, of course, must conform to the laws of their respective states. This presents no problem in those states which have taken the initiative in governing public sector labor-management relations. In the absence of such statutory guidelines, local governments and their employees must work out their own recognition and collective bargaining procedures through mayoral executive orders, city attorney opinions, city council resolutions, or other actions. The legality of public employers thus entering into collective bargaining agreements with their employees in the absence of enabling legislation has been upheld by several state courts (see UCLA Law Review, 1972: 1023). Recently, however, the Supreme Court of Virginia voided all local government bargaining agreements within that state as being illegal owing to the absence of express state enabling legislation. Only Texas statutorily prohibits collective bargaining by public employees, and this law can be circumvented through local referenda for police and firefighters (see GERR, No. 695, Feb. 14, 1977: 10-12). As a consequence of the dearth of state enabling legislation, some municipalities such as Philadelphia have developed highly sophisticated and

stable labor relations systems on their own initiative. A more common occurrence, however, has been the evolution of vague and confusing bargaining patterns in local government which have tended to result in uncertain and sometimes undesirable outcomes (UCLA Law Review, 1972: 1025).

Even where state and local collective bargaining is formalized, other legal questions draw lines of distinction between the public and private sectors. There are conflicts between state civil service laws and collective bargaining agreements within the public sector, particularly with regard to hiring, promotion, and grievance procedures (see Taylor, 1969). There are also disparities with regard to the scope of bargaining, which in the private sector is determined uniformly through NLRB and court decisions distinguishing between mandatory and permissive subjects for all bargaining agreements. In the public sector, the scope of bargaining varies in subject matter for virtually every occupational category and governmental jurisdiction. The same situation generally holds true for grievance procedures, which have been standardized throughout much of the private sector, but which take many diverse forms in state and local employment. Perhaps the most controversial question arising from the differences between the legal environments of the public and private sectors, however, has been the strike issue.

With the exception of a handful of states which have provided some of their employees with a limited right to strike, federal, state, and local government workers are forbidden from engaging in this type of job action. The justifications for the exclusion of public employees from a right their private sector counterparts enjoy are several, but they are predicated primarily on the notions of sovereignty and essential services.

According to the sovereignty doctrine, whose roots are embedded in the English common law principles that the king could do no wrong and that no individual could sue the state without its consent, the government represents the sovereign power so it alone can set the terms and conditions of employment for its workers. Therefore, the basic conditions of public employment are exercised by the American people through federal and state laws; as a consequence, these conditions are not subject to collective bargaining (see Nigro, 1969: 26-27). This form of logic was employed during the early 1960's by those who desired to avoid the recognition of public employee organizations. Today, the sovereignty argument is becoming increasingly irrelevant, as many government and public agencies in effect have waived their sovereignty through entering into collective bargaining agreements with employees.¹

More germane in the strike controversy is the position that public workers provide "essential services" to a community which, if interrupted, pose a threat to the public safety and health. While this argument seems valid for police, firefighters, and prison guards, one quickly finds oneself in a quandry in attempting to decide which other public services are "essential," a situation which is complicated by the question of whether or not similarly "essential" workers in private industry have the right to strike (see Stieber, 1969: 31-32). Notwithstanding the legal penalties which may be imposed on those public workers who participate in unlawful work stoppages, the strike weapon has been an often used and successful tactic in state and local government employment. The statutory prohibition of strikes, like the sovereignty argument, has had little impact on the incidence of work stoppages (see Burton and Krider, 1975). No-strike policies are rarely enforced by either public authorities or unions.²

Substantial differences between collective bargaining in the public and private spheres also are found as a consequence of the different economic environments surrounding the two sectors. A major justification for collective bargaining in the private sector is the monopsony argument³ which states, in essence, that the wages of individual workers will be less under monopsonistic conditions than under perfect market conditions. Therefore, collective bargaining is needed to help strengthen the position of the individual workers in the wage-setting process (Wellington and Winter, 1971: 13). The strike is generally viewed as a necessary element in the bargaining process. Market constraints are believed to operate within the private sector to limit the amount of employee gains from collective bargaining. Thus, increased wage or benefit payments to a firm's employees must be offset by increased productivity, lower profits, a reduction in employment, or higher product prices to consumers if that firm is to remain in a viable financial position. Otherwise, the firm may be undersold by nonunion companies or consumers may substitute for the higher priced union product. As a consequence, the firm may be forced to go out of business or relocate to a new plant site. Thus, union demands and tactics in the private sector are checked by the forces of competition and other market pressures. The ultimate union bargaining tactic, the strike, is also constrained somewhat by market forces. For instance, if a prolonged strike results in a permanent loss of a firm's market position, the workers will suffer along with their employer.

Similar economic constraints are much weaker or nonexistent in the public sector. Most services provided by governments are monopolistic in that there exist no other sellers or sources of the product. As a result, demand for these services is usually inelastic. Police services

constitute a leading example of a monopoly government service for which there is usually no adequate substitute in the private marketplace. Because most public services such as police, fire, and garbage are monopolies, and since adequate substitutes for these services are not readily available, no competitors act as constraining factors. Furthermore, no consumer choice exists, as voters are required by law to buy government services through taxes regardless of their degree of usage of the services. A price increase means higher taxes without the fear of losing customers that exists in the private sector. Of course, some market constraints do function within the public sector. Budget considerations and corresponding tax levies check employee compensation increases to some extent, but, as Bok and Dunlop (1970: 334-35) state, "the connection is remote and scarcely applicable to particular ... groups of strategically located public employees."

Other economic differences are evident among public and private sector employers. First, it is difficult to offset higher labor prices in the public sector through increased productivity because of the service-providing nature of almost all public employment. Also, profits and prices are not readily available as criteria for measuring the public costs and benefits, and it is extremely unlikely that the government, as employer, will relocate or "go out of business." Finally, though high wage settlements may force a reduction in the state or local labor force or a decline in the quality of the service provided, political considerations militate against these actions (Wellington and Winter, 1971: 19). Because of these and other differences between the economic environments of public and private sector employment, Wellington and Winter (1971) argue strongly that the strike should not be a part of public sector

collective bargaining.⁴ They fear that in the public sector, "in the long run strikes may become too effective a means for redistributing income; so effective, indeed, that one might see them as an institutionalized means of obtaining and maintaining a subsidy for union members." (Wellington and Winter, 1971: 26).

Organizational relationships which prevail in state and local governments constitute the third major area of divergence between public and private sector collective bargaining structures and processes. In the private sector, collective bargaining consists of a bilateral relationship with a clear-cut distinction between employee and management organizations. The bilateralism can be compromised by government intervention through the NLRB, the courts, the Federal Mediation and Conciliation Service, or other channels, but this is a very rare phenomenon. Private sector management has a strong grip on organizational power and authority, except to the extent that these functions may be shared with the party representing labor. Management authority is vertical, flowing from the chief executive down to the line workers.

In the public sector, collective bargaining departs from the conventional bilateral model, becoming a multilateral relationship which reflects the American political principle of separation of powers. Managerial power and authority are divided between the executive, legislative, and bureaucratic functions within a single level of government, and between separate levels of government throughout the country. This diffusion of power and authority results in a blurring of the lines distinguishing management and unions and creates confusion over who represents the management bargaining unit in the collective bargaining process. A prime illustration of this latter point would be the role conflict

frequently experienced by the "Head" or chairperson of an academic department in a college or university. If the faculty engages in collective bargaining, does a chairperson represent the faculty, of which he is a member, or is he part of the university administration?

Managerial authority may also appear confused in American cities, which may exhibit several patterns of organizational structure, including city manager, strong mayor, weak mayor, and commission forms of government. Budgetary authority may be divided equally between the executive and legislative branches or dominated by one of the parties in a single level of government. In some cities, semiautonomous agencies exercise independent authority over their employees' compensation through their own taxing power or grant support. Los Angeles, for example, has six local authorities which can set employee salaries independently (Reynolds, 1974: 679). In many areas the state legislature further complicates the diffusion of managerial power through imposing constraints on the fiscal authority of local officials, such as by regulating local government fringe benefits. Another actor who frequently enters the picture is the public, represented by various interest groups favoring either the employee or management position.

The diffusion of managerial power and authority in public sector labor relations has important implications for the motivation of public managers. In the private sector, a manager's motivation issues from the profit motive and the knowledge that his future promotion and salary are contingent on how effectively he deals with the firm's unions. The private manager is likely to be well-versed in labor relations, and he is unaffected by any threat of retribution for his actions by unions (see Shaw, 1972: 874). The public manager, on the other hand, is not motivated

by profits, is usually ill-trained in labor relations, and, if he is an elected official, must fear the possibility of union opposition to him in the next election.

Unions tend to exploit these elements of multilateralism in state and local government through political activity⁵ designed to circumvent the bargaining table. Lobbying may be directed at any or all of the three prominent public sector collective bargaining actors. The chief executive, whether governor or mayor, is in some respects the public employer. However, he frequently has an adversary relationship with his legislative body and he may be able to exert little control over state or local agencies. His limited power is subject to the divided loyalties of public employees, the legislature, the bureaucracy, and the electorate. Any decision he makes must be a political one. Thus, his position is quite vulnerable to the actions of public employee unions. For instance, in New York City, municipal employees usually make large financial contributions to the mayor's election campaign and even ring doorbells for him in efforts to gain his allegiance (Hirsch, 1973: 435).

The legislature offers a second target for public employee union lobbying, and an important one, since legislative bodies as collective representatives of the people, constitute the ultimate source of decisions relating to public employees. Lobbying efforts may consist of direct, face-to-face confrontations between lobbyist and legislator (sometimes known as the legislative end-run), to indirect lobbying techniques such as television advertising or letter-writing campaigns. The purpose of these lobbying techniques is, of course, to gain legislative understanding and sympathy for union problems and to apply political pressure where it is deemed necessary (Shaw and Clark, 1972: 921-29).

The third collective bargaining actor in the public sector, the public itself, may consist of a bewildering array of political participants. The general voting public's sympathy and support is sought both by elected officials and labor organizations. "Special publics," such as the local Chamber of Commerce or Parent-Teacher Association are also subject to lobbying efforts. Furthermore, the union membership itself functions as a special public through its great potential voting power. Given the traditionally low rate of voter turnout in local electoral contests, "the votes of union members, families and friends, could be determinative in relatively close contests" (UCLA Law Review, 1972: 1039).

In addition to the executive, the legislature, and the general public, other political actors are involved in public sector collective bargaining. A large number of administrative agencies within the state and local bureaucracies, such as civil service commissions, budget departments, and personnel departments conduct activities which affect labor relations and are, in turn, the recipients of union attention. The state judiciary also plays a key role, especially in labor-management controversies during which it may serve as a powerful informal mediator.⁶ Finally, the mass media may assume an important role through raising and discussing public labor relations conflicts and issues.

A good illustration of public employee union political activity is provided by Stieber (1973: 194-99) in his description of the AFSCME. Political action by AFSCME members is coordinated nationally through the Public Employees Organization to Promote Legislative Equality (PEOPLE), which was established at the 1968 AFSCME convention. Among other things, PEOPLE coordinates union activities at the international, council, and

local levels; participates in the AFL-CIO Committee on Political Education (COPE) program; and lobbies in the Congress and state legislatures. More recently, PEOPLE has adopted resolutions on various social and political issues, including civil rights, consumer protection, and national health insurance. Most of the AFSCME political activity, however, takes place through "councils" composed of state and local government employees. The councils mobilize their members in support of political candidates and various issues of union interest and provide electoral support to selected candidates by raising campaign funds and donating manpower for electoral work. As a result of its political activities, AFSCME has claimed credit for the outcome of a number of elections, including the 1969 victory of Mayor Lindsey in New York City.

It seems apparent that public sector multilateral collective bargaining departs substantially from the bilateral model of the private sector primarily because of the infusion of politics in public employment. Of course, multilateral bargaining and concomitant political activity occur more frequently and to a stronger degree in some states and localities than others. Based on a survey questionnaire, Kochan (1974: 542) finds that the nature of the local government collective bargaining process is, indeed, "a natural outgrowth of the political context in which it operates." The extent of multilateral bargaining, he determines, varies directly with (1) the extent of conflict between city officials in making bargaining decisions; (2) the extent of the union's political activities; and (3) the use by unions of such strike substitutes as slowdowns and picketing. The important question here, however, is what difference the dissimilarity between public and private sector labor relations makes with regard to the compensation of workers. Some, like Wellington and Winter (1970: 808),

argue that the nonmarket, political setting of the public sector, if not effectively regulated, will place public employee unions in a competitive advantage vis-a-vis other interest groups and "the political process will be distorted." Others, such as Lewin (1973), believe that market forces in the public sector are sufficiently strong to constrain union power.

Perhaps the best measure of union bargaining power is the outcome, in dollar and cents, of the collective bargaining process for the compensation level of the individual employee. If the union is successful, its strength should be reflected in the amount of wages and benefits its members receive relative to similarly situated nonunion workers in both public and private employment. In the next section, a review will be presented of the literature pertaining to wage theory and determination in the public sector. In subsequent chapters, analyses will be offered in order to help resolve the question of what difference unions make in the amount of pay and benefits received by their members.

Wage Theory and Wage Determination in the Public Sector

Because of the many dissimilarities in the determination of employee compensation within the public and private sectors, economists generally have recognized the inapplicability of traditional wage theory to public employment. Gerwin (1969) states that technical considerations render private sector wage theory inappropriate, especially the absence of a product price or a satisfactory measure of the marginal physical product of labor (i.e., profits). This may be attributable, he continues, to diverse institutional and political factors found within public employment. Others (Carlsson and Robinson, 1969) say that it is the conceptual framework and underlying assumptions of traditional wage theory which

make it inappropriate. Probably it is both. Neither the underlying assumptions nor the technical elements of private sector wage theory appear to have much relevance when applied to the public sector.⁷

Despite increased scholarly interest during the past decade, very little progress has been made in developing theoretical constructs pertaining to public employee unionism in general or, more specifically, its impact on compensation. Levine and Perry (1975) attribute the failure in theory building to three factors: (1) the tendency for students of the field to use conventional, nontechnical language; (2) the idiographic approach to the subject; and (3) the dominance of the field by those holding prescriptive orientations to the problems found within public employee relations at the expense of theoretical concerns. Perry and Levine (1976) seek to remedy this theoretical lacuna by placing public sector collective bargaining within the framework of interorganizational theory. Organizations are viewed as interacting with other autonomous organizations in joint decision-making which affects both parties along with "the larger system." Research hypotheses are formulated using five interorganizational variables and tested on data gathered on public employee collective bargaining in New York City. While Perry and Levine's work appears to offer some contribution to the field of organizational theory, its implications are somewhat abstruse and of little or no relevance to public sector wage theory.

Of greater interest in this study is Wellington and Winter's The Unions and the Cities (1971). This book has generated a great deal of controversy within the field of public sector labor relations, some specifics of which were pointed out in the preceding section. According to the authors' major thesis, if a full transfer of collective bargaining

as it is constituted in the private sector were made to the public sector, "such a transplant, would, in many cases, institutionalize the power of public employee unions in a way that would leave competing groups in the political process at a permanent and substantial disadvantage" (Wellington and Winter, 1971: 30-31). There are three reasons for this: (1) some municipal services are of such a nature that prolonged interruption, resulting from a strike, would result in a real danger to public health and safety; (2) the relatively inelastic demand for governmental services is mostly insensitive to price changes, the governmental services lack close substitutes, and competitive nonunion service-providers rarely exist; and (3) the disruption of a government service inconveniences municipal voters who may choose to "punish" the political leadership in the next election. Thus, the authors argue, unions in government inherently have greater power than those in the private sector. Wellington and Winter illustrate their thesis by presenting a model of public sector collective bargaining. The model develops a structural bargaining paradigm of a municipality governed by a city council and an elected mayor, in which the mayor conducts negotiations with the unions which represent the city employees (Wellington and Winter, 1970: 17). If Wellington and Winter are correct, then we would expect that municipal government union employees would be more highly compensated than both their union counterparts in private employment and their nonunion counterparts in the public sphere, at least in the short run. However, as Levine and Perry (1975: 211) note,

The Wellington-Winter framework is for the most part, undefined and unaccompanied by indicators or constructs for its operationalizations. Also, the framework is of limited generality due to the assumptions about the structure of government and forms of political pressure.

Finally, since no attempt is made to test the model, the hypotheses remain neither confirmed nor disconfirmed.

Hammermesh (1975) attempts to rectify the latter point by subjecting the Wellington-Winter thesis to direct empirical testing in order to determine whether or not public workers belonging to unions receive higher wages than private sector union members engaged in the same occupation. Three occupational categories are examined, each in a separate data set: bus drivers, construction workers, and a cross-section of union workers from many occupations. For the first two categories, statistical controls are used to account for such variables as the level of education of municipal workers, the percentage of nonwhites, population size, population density, city employment rate, average hourly earnings of manufacturing production workers and the percentage of such workers who are union members. Results indicate that the union bus drivers who worked for a city government earned between nine and 12 percent more in wages than union drivers who worked for a private employer (Hammermesh, 1975: 238), tending to support the Wellington-Winter thesis. Hammermesh's second analysis, however, suggests that "there is no difference in earnings between public and private construction workers" (Hammermesh, 1975: 248), which appears to contradict the Wellington-Winter position. Hammermesh's third analysis employs the 1968 Survey of Consumer's Finances data in an effort to measure the relative wage effects of unions on various occupational categories within both the public and private sectors, and the differentials in union relative wage effects between the two sectors. He determines that the union relative wage effects ranges from three to nine percent for government medical and educational service employees, and from -4 to 4 percent for other government services employees. The

relative wage effects of unions for workers in similar private sector employment, on the other hand, varies from four to 16 percent (Hammermesh, 1975: 248-53). It therefore appears that the relative wage effects of unions in government are slightly lower than in the private sector. On the basis of his three analyses, Hammermesh (1975: 254) appears to offer the rather unsatisfying conclusion that unions in the public sector do as well or only slightly better than their private sector counterparts--no definite confirmation or disconfirmation of the Wellington-Winter hypothesis has emerged from his data. It is also unfortunate that Hammermesh's study is subject to serious theoretical and statistical deficiencies. For example, he ignores the union impact on employee benefits, choosing to focus on wages alone. Furthermore, only a small amount of the total variance in the several dependent variables is accounted for with the regression procedure he employs (the largest multiple correlation coefficient is $R^2 = .42$).

Other tests of the Wellington-Winter hypothesis have been equally unsatisfying. Freund's (1974) study of market and union influences on municipal employees' wages in a large number of cities indicates that market forces are the major determinants of employee wage increases, with union power variables exerting only a weak effect on wage changes. In a direct test of the Wellington-Winter hypothesis, the 1965-1971 change in the proportion of each city's expenditures given to employee wages was regressed on several measures of unionism. In observing that only two of the union variables were significant, Freund (1974: 403) concludes that his study "provides no support to Wellington and Winter's proposition that local public sector unions affect their member's wages by political activities aimed at garnering a 'disproportionate' share of

local government budgets." What Freund neglects to mention is that one of the union variables he found to be significant can be considered a direct measure of union power: percent of workers unionized. Also, his data show that a city in which 60 percent of the employees are unionized would devote approximately three percent more of its budget to employee wages than a city in which no municipal employees belong to unions. Freund (1974: 403, fn. 20) does admit that "There is, therefore, some weak evidence that public sector unions can affect the composition of a city's budget, but the equation could only explain five percent of such shifts in the wage share of municipal budgets." "Only" a five percent increase in the portion of a city's operating budget dedicated to employee wages would result in a \$250,000 adjustment for a city whose operating budget was \$5 million. Furthermore, Freund, like Hammermesh, fails to include the dollar value of municipal employee benefits in his analysis--an omission which seriously calls into question his findings.

Other than the rather unsatisfying tests of the Wellington-Winter thesis, public sector wage theory generally has assumed two approaches. The traditional economic approach has been to specify labor supply and demand equations in order to solve for the wage rate of public employees. Separate influences on the demand for and supply of government workers are specified and included in the wage equations. This approach is illustrated in the studies by Reder (1975) and Ehrenberg (1973). A second avenue in public sector wage theory has been the bargaining approach, which focuses on the institutional factors involved in the wage-setting process. Here, wage determination is seen as resulting from a bargaining relationship between the government and the unions representing its employees. Emphasis is placed on such variables as union tactics, the degree of

multilateral bargaining, and other factors influencing the relative bargaining power of the two parties. Examples of this approach are found in the works of Kochan (1975), Love and Sulzner (1972), and Gerhart (1976). Others (Kochan and Wheeler, 1975; Freund, 1974) have attempted to combine the supply/demand and bargaining approaches in developing models of public sector wage determination.

While some attention has been focused on the Wellington-Winter thesis and the development of supply/demand and bargaining power models, many of the residual attempts to develop public sector wage theory have concentrated on identifying those aspects of private sector wage determination which may be applicable to public wage determination. In the section on private sector wage determination which was presented in Chapter One, nine factors were identified (others than unionism) which economists have been concerned with in focusing on private sector wage rates: geography, size of establishment, profit levels, quality of labor force, cost-of-living, comparative wage standards, the wider economy, nature of the product market, and noneconomic variables. Some of these factors are directly transferable to public sector wage determination, particularly geographic location, nature of the labor force, cost-of-living, and the wider economy. These variables appear to be of considerable importance in determining employee wages regardless of whether or not the employer is a government or a firm. The issue is not so clear-cut, however, with regard to the remaining variables.

The salience of comparative wage standards or the "prevailing wage" in public sector wage determination has been a topic of special concern to scholars in the field. Lewin (1974a; 1974b; Fogel and Lewin, (1974) has addressed the issue on several occasions. In one instance

(1974b) he notes the common practice of basing the wages of municipal employees on rates prevailing in the private sector which, he says, reflects a mixture of economic and political reasoning. Lewin then embarks on a lengthy discussion of the theoretical underpinnings of the prevailing wage rule and some of the operational difficulties encountered in implementing it. He concludes that operationalizing the principle

is a complex process in which considerable managerial judgment must be exercised with respect to the determination of prevailing market rates and the utilization of market data to form governmental wage structures ... no single operational definition of prevailing wages is uniformly applicable to a governmental occupational structure ... (and) prevailing wages are actually determined for relatively few of a government's job classifications ... (1974b: 482).

Still, "... the prevailing wage principle serves as a cornerstone of government wage policy" (1974a: 150). Therefore, it would appear that comparative wage standards at least are as important in setting public employee wages as they are in private employment. The earlier findings of Gerwin (1969) support this conclusion.

Gerwin's 1969 article presents a model of public compensation determination predicated on three major hypotheses: the tendency in public employment is for the employer to (1) grant all employees salary increases at the same time; (2) grant salary increases when the relative position of a key occupation's⁸ salary has approached a critical level; (3) grant fringe benefit increases in order to temporarily mitigate discontent in the key occupation (Gerwin, 1969: 182). In general, salary and benefit increases are based on two variables: wage comparisons and the ability to pay (Gerwin, 1969: 178). Gerwin, like Lewin, notes that this pattern resembles that found in the private sector, but neither author attempts to test his hypothesis empirically.

Empirical verification of a nearly identical concept--the opportunity wage--is undertaken by Gustely (1974) in his attempt to develop a "positive theory of local expenditure." Gustely (1974: 10) proposes that the most important determinant of public sector wages is the pay availability for similar work in the private sector. To explain interurban variations in the level of municipal government expenditures for police, fire, and common function employees for 1966 and 1971 in 39 cities, he utilizes six independent variables: fiscal capacity, extent of private sector unionism, mobility of public employees, geographical region, the number of public employees per 1,000 population, and the public employee opportunity wage. Gustely finds that the opportunity wage, as measured by the average earnings of private sector service employees is the most important determinant of public employee wages for each employment function in each of the two base years. This holds true also when median family income is substituted as the proxy for opportunity wage. All considered, it is apparent that the related concepts of "prevailing wage," "opportunity wage," and "comparative wage standard" are important in public sector wage determination, and therefore should be taken into account in any related analysis.

Another important element in private sector wage determination which appears to be of some relevance to the public sector is profit levels. Although state and local governments do not really concern themselves with the notion of profits as it is recognized by private sector firms, there would seem to be an appropriate analogy. Profits, to a firm, result in the ability of that firm to grant its employees wage increases without a concomitant increase in product prices. Public employees can be awarded pay increases without a boost in the public sector version of product

price--tax assessments-- if the fiscal capacity of the state or local government is raised, for example, through a jump in revenue-sharing funds. Thus, the public sector analogy for profits might be some measure of fiscal capacity, or ability to pay. Gustely (1974: 14-18) suggests that a local government's fiscal capacity consists of an internal variable, which he operationalizes with median housing value and per capita assessed property valuation, and an external variable which he measures through per capita federal and state financial aid. Ehrenberg (1973: 38-39) distinguishes between a community's ability to pay, which he measures with median family income, and its "taste" for a certain service, as measured through such proxies as median value of housing and population density (for fire services). Kochan and Wheeler (1975) employ tax base, income, expenditure, and sales data in order to gauge a city's ability to pay, while Schmenner (1973) accounts for these characteristics by using real property tax assessments per capita and property tax rate change. Results of the aforementioned studies indicate that the assessed valuation and median family income measures are most strongly related, and the relationships are frequently statistically significant. If these variables constitute valid indicators of governmental fiscal capacity/ability to pay, and it would appear that they do, then one should consider them to be of theoretical and empirical interest in the determination of wages in public employment.

Like profit levels, size of establishment in the private sector appears to have a public sector analogy. Just as large firms are expected, *ceteris paribus*, to pay their employees higher wages and benefits than smaller firms, we might expect the same pattern with large and small governments, when size is measured by jurisdictional population. The

1973 study by Schmenner supports the importance of the population variable as a determinant of public employee wage rates.

In Chapter One, the on-going debate among economists on the impact of monopoly in the product market on the wage-setting process in private sector employment was outlined. The controversy over the nature of the product market monopoly-unionization-wage relationship was duly noted. A direct analogy does not emerge readily in the public sector for the concept of the degree of private sector monopoly in the product market or its usual surrogate, product market concentration. If a government "owns" a public "business," it usually is a monopolist. However, there does appear to be some indirect correspondence when the monopsony argument is considered.

According to conventional economic theory, monopsony in the labor market can exercise an influence on wage levels. This occurs when a firm purchases a large enough quantity of a particular class of labor so that it influences the price (i.e., wages) of that labor, corresponding to a monopolist who sells such a large quantity of a product that his supply affects that commodity's price (see Bloom and Northrup, 1973: 303). The monopsony argument has been employed in one "public market"--the market for public school teachers. Landon and Baird (1972: 966) address themselves to "the effect of monopsony power of local school districts on the determination of teachers' salaries. The basic hypothesis (being) that competition in the market for teachers should result in higher salary levels." Thus, Landon and Baird expect that where two or more school districts exist in the same geographical area to compete for the services of public school teachers, the degree of competition is positively related to the level of teachers' wages. The hypothesis is confirmed by their data, and they conclude that teachers' salaries are lower where few

school districts exist and higher where many small districts compete for the services of teaching personnel (Landon and Baird, 1972: 966). Recent findings of Holmes (1977) tend to support the conclusion of Landon and Baird. However, the applicability of the monopsony argument in the public sector appear to be limited to the case of special skill groups, such as teachers, for whom similar work is generally not available in the private sector. For example, Schmenner (1973) has determined that while monopsony, as measured by the ratio of city population to metropolitan area population, does tend to reduce teachers' wages, an inverse relationship exists when police, firefighters, and common function employees' salaries are considered. In sum, it would seem that the monopsony argument is of limited utility in the public sector, except perhaps in the case of public school teachers.⁹

Up to this point in the discussion the transferability to the public sector of various economic elements important to private sector wage determination has been considered. It has been concluded that many of the concepts are, indeed, appropriate to public sector wage determination. Geographic location, size of governmental jurisdiction, ability to pay, nature of the labor force, cost-of-living, comparative wage standards, and the wider economy all appear to be of some importance in public employee wage-setting. Other economic factors should also be considered in accordance with the nature of the particular public service being investigated. For example, police and firefighters' compensation might, in part, be a function of population density in their jurisdictional boundaries, and one might expect that the local crime rate would also affect salaries and benefits of protective service employees. Specific issues such as these will be taken into account in Chapters Three, Four,

and Five. At this juncture in the discussion, however, the various noneconomic (i.e., political) factors which have been treated in public sector wage theory will be examined.

While noneconomic factors (other than unions) usually are not considered by economists in their empirical models of private sector wage determination, the inherently political nature of public sector labor relations makes them difficult to ignore in public employee wage determination. Three noneconomic factors--all interrelated--have received special attention in studies related to public employment: legal environment, multilateral bargaining, and city government structure.

The portion of a state's legal environment pertaining to public employee labor relations generally reflects the favorableness with which public employee organizations are viewed within that state. Although six states still have not formalized their public sector labor relations, 44 states have some type of coverage for at least one occupational category of public employment. Within this latter group there exists considerable variation with regard to procedural provisions and the comprehensiveness of individual state bargaining arrangements (see U.S. Department of Labor, 1976). Kochan and Wheeler (1975) attempt to determine the impact of various bargaining provisions (or their absence) on bargaining outcomes for firefighters in 121 cities, testing a model linking environmental, organizational, and bargaining process characteristics with wage and nonwage outcomes. They find that three characteristics of a state's legal environment exercise statistically significant effects: (1) the comprehensiveness of the state bargaining law; (2) the existence of fact finding as an impasse procedure; and (3) the existence of compulsory arbitration as an impasse procedure.¹⁰ The authors note that an earlier study by

Kochan (1973) determined that a state bargaining law's comprehensiveness is strongly correlated with several state environmental characteristics rather than legal characteristics. However, a test by Kochan and Wheeler (1975: 53) of three environmental elements important in the Kochan study (state per capita expenditures, state per capita income change 1960-1970, state legislative innovativeness) failed to support this supposition.

Some implications of a second noneconomic factor, the public sector multilateral bargaining process, previously have been discussed within the context of organizational differences between the public and private sectors (Chapter Two: 51-53). Among the observations offered was that multilateral collective bargaining results in a diffusion of management power and authority and an increase in internal management conflict. The model offered by Kochan and Wheeler (1975) includes the correlates between both management characteristics and multilateral bargaining measures and the outcomes of bargaining. Their multiple regression results indicate that goal incompatibility between a city council and the mayor and the intervention of elected officials in the negotiations process are significantly related to municipal bargaining outcomes. This tends to confirm the significance of the multiparty relationships in public sector bargaining and suggests the salience of political conflict in public sector labor relations and bargaining outcomes. In an earlier study of IAFF locals in 228 cities, Kochan (1975) uncovered a great deal of dispersion in management power, with different management units representing diverse interest groups and goals. Kochan hypothesizes that such internal management conflict is the most important determinant of multilateral bargaining, as management political conflicts which are not resolved internally get carried over into the bargaining process (Kochan, 1975: 99-100).

A final noneconomic, or nonmarket, variable which has been considered in public sector wage determination is the structure of municipal government. Over a decade ago, Banfield and Wilson (1967: 214) postulated that the political power of organized municipal employees "depends largely upon the nature of that city's political structure, and especially the degree to which influence is centralized." Specifically, they contend that the influence of city employees tends to be strongest in cities which have a council-manager form of government, nonpartisan elections, and at-large elections--otherwise known as "reformed" cities. On the other hand, the influence of city employees would be least in cities evidencing a mayor-council form of government, partisan elections, and a ward system. Lineberry and Fowler (1967), however, appear to argue that an inverse relationship exists between reformed city governments and the extent of municipal employee influence. This is because reformed structures, they believe, tend to minimize the political access of interest groups through their depoliticized, bureaucratic process of decision-making.

Ehrenberg (1973) attempts to ascertain one effect of municipal government structure on the political influence of city workers by testing the hypothesis that city-manager cities tend to pay their employees relatively less than mayor-council cities (Lineberry and Fowler's thesis). Ehrenberg (1973: 40) speculates that the hypothesis may be valid because city managers, as professional labor negotiators: (1) may be more efficient than mayors or commissions in the bargaining process; and (2) may also solicit greater productivity from municipal workers. In testing his hypothesis on a sample of 270 cities with firefighters as the test group, however, he finds that when the number of hours worked is taken into consideration, the hourly wages of firefighters in city-manager cities

are not significantly lower than those in mayor-council cities (Ehrenberg, 1973: 48). The opposite conclusion is reached in a recent study by Gerhart (1976), who determines from an analysis of 262 municipal government labor agreements that city employees do not gain as much, in terms of bargaining outcome, in council-manager cities as they do with other forms of municipal government. A broader study by Ehrenberg and Goldstein (1975) tests the same hypothesis using 1967 Census of Governments data on 10 categories of municipal workers in 478 cities. Government structure had a statistically significant impact on only two categories of employees. Overall, the authors conclude, average municipal employee wages are 0-17 percent higher in manager cities than in mayor-council cities. This finding, in casting doubt on the hypothesized direction of the government structure/employee influence relationship, tends also to negate the conclusions of Ehrenberg and Gerhart. Obviously, the question of the impact of municipal government structure on public employee bargaining outcomes has not been answered satisfactorily. This topic will be dealt with at some length in Chapter Five.

The following section will turn to another issue relevant to the study of the impact of unions on compensation in the public sector: the relative position of public and private sector workers with regard to the wages and benefits they receive from their respective employers. A review of the literature will be undertaken in order to determine if public sector employees have overtaken or surpassed their counterparts in private sector employment, as the analysis of Wellington and Winter might lead one to believe.

A Comparison of Employee Compensation
in the Public and Private Sectors

In Chapter One it was mentioned that one of the paramount reasons for the rapid growth in public employee unionism was the fact that the wages and benefits of private sector employees generally had surpassed those of public workers during and shortly after the Second World War. Unionization appeared to offer one possible avenue for public workers to rectify this unpalatable situation. As it will soon become clear, the evidence to date seems to affirm the success of public employee organizations in regaining lost ground for their members vis-a-vis private sector workers. In fact, it appears likely that public employees, at least in some job categories and in some geographic locations, have forged ahead of their private sector counterparts in the area of compensation.

In a cross-sectional study of 11 large cities, Perloff (1971) discovers that the average monthly salaries of municipal government employees in several clerical occupations exceeded those of their private sector counterparts in nine cities. Also, he reports, municipal employee salaries for maintenance and custodial occupations were higher than salaries for similar jobs in the private sector in seven cities, and data processing wages were higher for city employees in six locations. Field and Keller (1976) report similar findings for 24 large municipalities in a more recent year. In a study over time, Ehrenberg (1972: 4) finds that both state and local government employees improved their relative incomes compared with private workers during the 1965-1970 period. The average monthly payroll per full-time equivalent employee increased 42 percent for state and local employees during these years, but only 31 percent for workers in the nonfarm private economy and 29 percent for those in private

manufacturing. Ehrenberg's findings are confirmed by Reder and Orr. Reder (1975) draws from 1960 and 1970 census data in showing that while average 1959 hourly earnings of state and local government workers were four percent below those of comparable workers in private employment, 1969 hourly earnings favored the government employees by about nine percent. Orr (1976) uses various government sources in comparing federal, state, local, and private industry compensation from 1950-1973. He determines that from 1952-1966, the average compensation of government workers stayed roughly at parity with compensation for equivalent work in the private sector, but that since 1966, government employee wages and benefits have risen each year through 1973 when compared to wages and benefits in private sector employment. During the 1973 period, the earnings gap reached about 10 percent in favor of government workers.

From Orr's study it would appear that the relative wage advantage of public employees holds true for nonwage benefits as well. Harrison (1972: 66) reports that a 1970 survey conducted by the Middle Atlantic Bureau of Labor Statistics determined that the wages and benefits of public sector maintenance workers exceeded the private industry average by about 51 percent in the state of New York that year. The evidence with regard to nonwage benefits also favored municipal public employees in 1970 and 1973, according to two studies performed under the auspices of the International City Management Association (ICMA, 1970; ICMA, 1974). In addition, Tilove's (1976: 67) examination of state and local public employee retirement plans revealed that as of 1972, "benefit levels of the public plans were, for the most typical employees, approximately double those prevailing in private industry plans."

Whereas most public workers would appear to enjoy a relative benefits advantage when compared with their private sector counterparts,

wage advantages accruing to public employees in recent years have not been evenly distributed among all government occupations. For example, Lewin (1974a) utilizes data gathered from the city of Los Angeles in discovering that while public employees in lower-ranking jobs are paid higher than comparable workers in the private sector, high-level employees tend to be paid less. Lewin asserts that the reason for this differential in the wage structure of government workers is, basically, that there are more lower-level government employees. Political actors who make compensation decisions are guided by the perceived voting behavior of relevant interest groups--the larger and more cohesive a particular group is, the more likely public officials are to respond to it. Since blue-collar and lower-level white-collar public workers outnumber higher-level professional and managerial employees, and since they are better organized as a voting bloc, they do relatively better than higher-level public employees when compared to their counterparts in the private sector (see Lewin, 1974a: 152-53; Lewin, 1977: 141). Fogel and Lewin (1974) expand this argument further by taking into account the politicization of the public wage-setting process in general, the particular role of unions, and the role of the prevailing wage principle in public employment. They present evidence showing that for most lower-level occupations, a government pays more in wages and benefits than a private sector employer (Fogel and Lewin, 1974: 418). The authors (Fogel and Lewin, 1974: 430) conclude that this can be explained by

... a combination of two factors: the discretion that public employers must exercise in implementing the prevailing wage rule adopted by most cities and larger government units and the nature of the political forces that affect governmental wage decisions. The result is an occupational pay structure that is more 'equalitarian' in the public sector than that in private industry

Thus, it appears that workers in public employment have recently achieved a relative compensation advantage over their private sector counterparts, with the exception of professional and managerial personnel. Concomitant with these compensation gains has been a tremendous upsurge in public employee unionism, especially among those very blue-collar and lower-level white-collar employees who have enjoyed the greatest relative increase in wages and benefits. While it is incontestable that public employee compensation gains have varied directly with a rise in unionization, no cause and effect relationship has been established between the two. Indeed, the positive identification of a causal relationship between public employee unionism in general and overall pay and benefit gains may well be impossible. Nonetheless, it should be possible through the use of advanced statistical techniques to identify and isolate the impact of various unions on public employee compensation within certain occupational categories in the United States. In Chapter One, the theoretical underpinnings and empirical findings of economists concerned with the influence of unions on employee pay within the private sector were discussed. Earlier in this chapter the attempts by economists to apply what theory they have gleaned from the private sector to wage determination within the public sector were related. In the next section, the empirical literature concerned with the impact of unions on the compensation of state and local government employees will be reviewed.

The Impact of Unions on Employee Compensation in the Public Sector

Unlike the myriad empirical studies by economists over the past 40 years on the impact of unions on wages in the private sector, the investigation of union influence in public employment has been of more recent

origin and much more limited in scope. The first such study, which appeared as late as 1970, was concerned with the public employee occupational category which has received the greatest attention during the 1970's--public school teachers.¹¹ As it will become evident, the findings regarding the influence of unions on the compensation of school teachers and other public employees have been diverse and sometimes contradictory.

Most of the studies on the effects of union activity on teachers' salaries have employed a market approach, where the effects on teachers' salaries of their economic environment and teacher labor force characteristics are accounted for through multiple regression techniques, and the residual variance, generally represented by a union/nonunion dummy variable, is attributed to union influence. Teacher labor force characteristics constitute the "quality of labor," usually operationalized in terms of age, sex, education, and years of teaching experience of the individuals composing the teacher group being studied. Typical market, or economic, variables included in these studies are: (1) ability of the school district (or state) to pay, usually operationalized by per capita property tax valuation, per capita personal income, or per capita revenue figures; (2) urbanization; (3) expenditures per pupil; (4) monopsony power of local school districts, as measured by the number of school districts in the county; (5) region; (6) pupil/teacher ratio; (7) extent of unionization in the private labor force; and (8) the opportunity wage for teachers.

Results of the studies have been almost startling in their inconsistency. The initial effort by Kasper (1970), though seriously flawed (see Landon and Baird, 1972), employs multiple regression with the 50 states as units of analysis in order to determine the union influence on

the average teacher salary in each state. No significant relationship is found between unionization and teacher salary for the 1967-1968 school year. In a similar study for 1969-1970, Thornton (1971) reaches the opposite conclusion, finding that unionization is associated with salaries 2.3 to 28.8 percent higher in school districts in cities of 100,000 population or larger throughout the United States, depending on the educational degree held by teachers. Landon and Baird (1972) attempt to account for these divergent results. They discount the findings of Kasper on methodological and statistical grounds; namely, the state level of data aggregation and the inappropriate use of two-stage least squares regression equations (Landon and Baird, 1972: 410-13). In examining the Thornton study, Landon and Baird find that it is superior to the earlier effort of Kasper, but that it is still somewhat limited because it is restricted to large urban areas, and it ignores monopsony in the teacher labor market (Landon and Baird, 1972: 414). They expand Kasper's data to encompass smaller school districts and add a variable to measure the influence of monopsony on teacher salaries. Results indicate that salaries in school districts where collective bargaining is conducted tend to be higher by \$261--or 4.9 percent--a difference which is statistically significant.

Hall and Carroll (1973) also find that teacher unionization significantly affects salary levels. Their analysis of 118 elementary school districts in Cook County, Illinois for the 1968-1969 school year reveals that unions add \$165 per year, or about 1.8 percent, to teachers' salaries. Schmenner (1973) examines the beginning salary for teachers in 11 large cities and asserts that formal collective bargaining procedures result here in a 12-14 percent increase in the wages of teachers. Lipsky and Drotning (1973) report variable findings in a study of teacher salary

determination in New York state for the 1967-1968 school year. For the state as a whole (excluding New York City), the salary effect of teacher organizations was not significant. However, in small town districts the union influence was positive and significant; also, bargaining was found to be significant in its effects on changes in teacher salaries from 1967 to 1968, adding about 15 percent. Frey (1975) evaluates the impact of teacher bargaining on 298 school districts in New Jersey during 1969-1970 and, like Kasper, fails "to discover more than a trivial impact of bargaining on wages in the typical school district (Frey, 1975: 215). Frey's conclusion is supported by Balfour (1974), who attempts to replicate Kasper's study using more recent data (1969-1970) for the American states. Like Kasper, Balfour finds "that interstate differences in public school teachers' salaries in 1969-70 could not be attributed to unionization" (Balfour, 1974: 301). Brown (1975) takes a somewhat novel approach in his statewide analysis over the years 1961-1971 by comparing mean teachers' salaries in states with and without collective bargaining legislation. He, too, finds no significant influence of collective bargaining on teachers' salaries. As with the effort by Kasper, the statewide studies of Balfour and Brown have been criticized for the use of state-level aggregate data (see Moore, 1975). In a recent article, Holmes (1976) takes a single-state approach to the unions/teachers' salary question, using data for 1974-1975 on 456 school districts in Oklahoma. In contrast to those who have utilized the states as units of analysis, Holmes determines that the existence of union activity significantly increases teachers' earnings by an annual amount of \$818 (seven percent) in districts evidencing substantial union activity.

Table 5 presents a summary of the findings in the literature with regard to the impact of unions on teachers' salaries. Upon perusal of Table 5, it becomes apparent that those who have employed state-level data as their unit of observation have not found significant relationships between the salary and union variables. On the other hand, excluding the study by Frey, those who have utilized school district data have uncovered various significant associations between the two variables, resulting in a union advantage ranging from 1.8 to 28.8 percent. Common sense would dictate that more credence be given to these latter studies with the narrower degree of data aggregation. Unfortunately, however, all of the teacher studies suffer a serious flaw--none of them attempts to account for the nonsalary aspects of teachers' earnings. If unions do, in fact, affect the personal rewards received by public school teachers, then they should affect benefits as well as salaries. In order to gain a valid accounting of the union influence, one should take into account as many aspects of teacher compensation as possible.

Though research on public school teachers has dominated the nascent field of the union influence on public employee wages and benefits, related studies have treated other areas of public employee unionism. The literature pertaining to higher education faculty and municipal police protection employees will be reviewed in Chapters Three and Five, respectively. In the latter part of this section, a survey will be offered of the remaining literature dealing with the impact of public employee unions on worker compensation. The studies are all of recent vintage, and all are concerned with various occupational categories of municipal employees.

Three studies have been made on municipal firefighter unionization and compensation. The first, by Ashenfelter (1971), presents a

TABLE 5. A SUMMARY OF THE FINDINGS ON THE IMPACT OF COLLECTIVE
BARGAINING ON TEACHERS' SALARIES

Author	Unit of Analysis	Years Examined	Dependent Variable	Union Variable	Union Effect
Kasper	All state & D.C. N = 51	1967-68	Av. State Salary	% teachers rep. by org.; % teachers covered by agreement	0-4% (not sig.)
Thornton	All U.S. school dist. in cities 100,000 N = 83	1969-70	B.S. min & max salary A.M. min & max salary	Collec. barg. dummy	2.3-18.8% (sig.)
Landon & Baird	School dist. in cities 25,000 to 50,000. N = 44	1969-70	Beg. salary for new teachers	Collec. barg. dummy	4.9%(sig.)
Hall & Carroll	Elem. school dist. in Cook County, IL N = 118	1968-69	Av. salary in dist.	Collec. barg. dummy	1.8%(sig.)
Lipsky & Drotning	All school dist. in NY state (excl. NYC) N = 696	1967-68	Av. salary in dist. by teacher degree & exper., salary change 1967-68	Collec. barg. dummy	Not sig. for entire sample; sig. in small towns; 0-3% salary levels, 15% salary change
Schmenner	Large cities N = 11	1962-70	Min. salary for beg. teachers	Collec. barg dummy	12-14%(sig.)
Frey	School dist. in NJ, N = 298	1969-70	Teachers base pay	Collec. barg. dummy	1.4%(not sig.)
Balfour	All states except Alaska, N = 49	1969-71	Av. state salary	% teachers cover. by agreement	Not sig.
Brown	All states, N = 50	1961-71	Av. state salary	Collec. barg.	Up to 3.2% (not sig.)
Holmes	School dist. in OK, N = 456	1974-75	Av. salary in dist.	Collec. barg.	7-9%(sig.)

cross-sectional analysis over each year in the 1960-1966 period for a sample of cities throughout the United States. His investigation of the effects of firefighter unionism on annual salaries and weekly hours worked reveals that while union hourly wages were 2-10 percent higher than nonunion wages throughout the seven-year period, most of the effect was due to length of work week differences between union and nonunion cities. However, Ashenfelter (1971: 201) determines that during the most recent year of his analysis (1966), "the unionization of firemen may have raised the average hourly wage of unionized firemen by somewhere between six and 16 percent above the average hourly wage of nonunion firemen." With some modifications, Ehrenberg (1973) extends Ashenfelter's study using 1969 data on 270 cities. The union variable is dummied on the basis of whether or not a particular city's firefighters were covered by a formal union contract, rather than on the basis of whether or not an IAFF local was present in the city as in Ashenfelter's study. Also, Ehrenberg employs as the dependent variable, data on beginning and maximum salaries in place of average salaries. Independent measures used in Ehrenberg's analysis include population density, median value of housing, ability to pay (as measured by average hourly earnings of manufacturing production workers), median education level, and structure of municipal government. Results of the analysis lead Ehrenberg to conclude that unionism has a significant effect on the wages of firefighters in the range of 2-18 percent, depending on the length of work week and size of city (Ehrenberg, 1973: 47).

In addition to the literature reviewed above, three other studies have been made of union impact on municipal government employee wages. All of them encompass three or more groups of municipal workers. The

portion of Schmenner's (1973) study related to teachers' wages was discussed earlier. The remainder of his article is devoted to the determinants of police, fire, and various common function employee wage rates in 11 large cities over the period 1962-1970. Schmenner's time-series analysis regresses a proxy for opportunity wage, work stoppages per area employee, municipal tax rates, city population, assessed property valuations, and two union variables against maximum police and fire salaries and the average monthly earnings for various common function employees. Police-fire results show a significant relationship for the percentage of union membership and salary variables, but common function employees' wages are not found to benefit from the union variables. Unfortunately, it appears that some of Schmenner's data are subject to rather severe limitations (Schmenner, 1973: 88-89), and findings based on such a small sample certainly are not generalizable to the overall population. Freund (1974) attempts to improve on Schmenner's work by examining market and union influences on the wages of all city employees from 1965 to 1971 in 40-80 cities (sample size varies with different regression equations). Against 12 independent measures of legal, market, and union influences, Freund regresses the dependent variables of percent change in average municipal employees' earnings over the seven-year period. The "percentage of city work force unionized" variable was found to be statistically significant, indicating "that, from 1965 to 1971, a city in which 50 percent of municipal employees were unionized provided increases in weekly earnings that were about seven dollars greater than increases in a city with no unions of municipal employees" (Freund, 1974: 398).

The third study on the impact of unions on municipal government employee wages utilizes 1967 Census of Governments data for 478 cities

with populations of 25,000 and above. In this effort, Ehrenberg and Goldstein (1975) employ a union representation dummy in a test of their wage determination model for average annual wages of 10 categories of nonuniformed, noneducation personnel. Accounting for median education, percent black population, population density, population level, median family income, median value of single-family housing, average weekly manufacturing earnings, and per capita grants received from other levels of government, regression analysis reveals that the average wage of municipal employees in union cities is 2-16 percent higher than in nonunion cities, depending on occupational category.

Like the studies described above which pertained to teachers and firefighters, the three examinations of union influence on the wages of municipal employees all are flawed by the omission of data on nonwage benefits. Furthermore, the residual amount of variance ($1 - R^2$) that remains unaccounted for is quite high in all of the public sector research described above, frequently approaching 60 percent. Nonetheless, if one attempts to generalize from the literature, several thoughts may be relevant. First, as has been noted on several occasions, none of these studies attempts to account fully for the union influence on public employee compensation. Nonwage benefits uniformly are ignored or mentioned only in passing. A second methodological problem issues from the poor specification of nonunion determinants of public employee wages. The magnitude of unexplained variance is most unsatisfactory in these studies, leaving prominent a large error term which casts doubt on the validity of reported findings. Finally, in a noncritical vein, the mixed findings for different categories of public employees suggest that the union impact on employee wages in the public sector is not of the same magnitude

as that found in the private sector. In the case of public school teachers, the union differential appears to be on the order of 0-5 percent in most instances. However, the higher percentage figures obtained by Thornton (up to 28.8 percent), Schmenner (up to 14 percent), and Holmes (7-9 percent) cannot be ignored. A relatively small union influence on the wages of various categories of municipal employees is apparent from the work of Schmenner, Freund, and Ehrenberg and Goldstein, who attribute the union impact to be from 0 to 16 percent, depending on the occupational category and city size under consideration. The largest relative union wage influence among public employees is that found within the ranks of municipal firefighters, varying from 2 to 18 percent. According to Ashenfelter (1971: 202), this may be attributed to the fact that local firefighters are generally a well-organized, relatively homogeneous lot of closely-knit workers engaged in a craft-type occupation, all of which enables them to gain relatively more at the bargaining table than other municipal employees.

The reason that public employees appear to benefit less from union membership than workers in the private sector may lie in the nature of public employment itself. A 1971 study by Hammermesh tests the effects of union influence on the wages of blue-collar and clerical workers in manufacturing in 70 metropolitan areas over several three-year periods. Pooled, time-series regression results reveal a union wage effect of about five percent for clerical workers as opposed to 20 percent for blue-collar employees, suggesting to Hammermesh (1971: 170) "that white-collar workers have different work aims." In other words, since public work is principally white-collar in nature, the union wage effect may be different from that evidenced in the private sector, where most union members are blue-collar employees. Whatever cause is attributed

to the divergent findings with regard to the magnitude of union influence on public and private sector employees' wages, it does appear that a disparity on the order of 10 to 15 percent exists in favor of private sector workers.

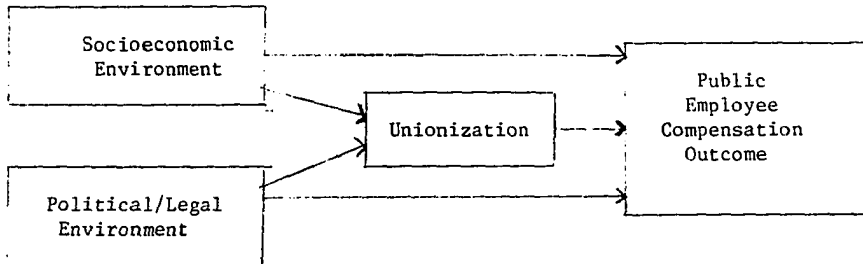
The lesser impact of unions in public employment does not mean that the union effect is unimportant. On the contrary, as it has been shown earlier in this chapter (pp. 49-50), public employers are not able to absorb increased labor costs as readily as private sector employers. As a result, a 10 percent salary increase may affect a local fire department as adversely as a 20 or 25 percent salary increase affects General Motors. These and related matters will be explored in the final chapter. At this point, a general model of public sector wage determination will be developed. In subsequent chapters, the model will be applied to wage determination for higher education faculty, state government employees, and municipal police service employees in order to specify the impact that public sector unions exercise on employee compensation.

The Determinants of Employee Compensation in the Public Sector: A Model

In an earlier section in this chapter, it was stated that neither the underlying assumptions nor the empirical elements of private sector wage theory have a great deal of relevance when applied to public employment. The various approaches to public sector wage theory were reviewed, including the traditional economic approach, the bargaining approach, the Wellington-Winter thesis, and efforts to identify those aspects of private sector wage determination applicable to public wage determination. As the primary interest in this study is the impact of unions on the wages and benefits of public employees, it is this latter field of investigation which is of most concern here.

From the discussion on the transferability of the major elements of private sector wage determination to the public sphere, it was tentatively concluded that four factors are directly relevant: geographic location, quality of the labor force, cost-of-living, and conditions in the wider economy. Other variables deemed to be potentially salient in public sector wage determination were comparative wage standards or opportunity wage, the fiscal capacity of the public employer (analogous to profit levels of the firm), population (a surrogate for the size of establishment), and various noneconomic factors such as legal environment, the degree of multilateral bargaining, and government structure. It must be understood, however, that the above variables all cannot be adopted in any specific model of public sector wage determination. Whereas almost all private sector firms operate within the same basic environment in terms of legal factors and economic conditions, the federal system of government in the United States dictates that separate levels of government function in diverse legal and socioeconomic contexts. Of relevance here is what Horton, Lewin, and Kuhn (1976) refer to as a "diversity thesis" in public employment, which envisions a multiplicity of bargaining outcomes reflecting differences in governmental structure, politics, organization, and union influence. Public sector labor relations are quite divergent within each city and state and between municipal and state governments. These differences must be accounted for as much as possible in attempting to construct a model of public sector wage determination. Therefore, the model presented below will undergo modifications, sometimes rather substantial, when it is applied to diverse governmental and functional areas of public employment.

The overall model of public sector wage determination may be specified as follows:



Thus, certain factors within the socioeconomic and political/legal environments determine the amount of wages and benefits received by public employees. When unionization is present, it operates as an additional influence on compensation. It must be noted that the linkage indicated between the environmental factors and unionization is not necessarily causal in nature. Although, conceptually, unionization does issue from the socioeconomic and political/legal environments, the major thrust of this study is not to investigate the causal forces of unionization. Rather, the purpose is to isolate the impact of unionization on public employee compensation outcome. Therefore, the emphasis is placed on those socioeconomic and political/legal factors potentially related to the determination of public employee salaries and benefits. In the presence of unionization, the environmental elements will be "controlled" for, or held constant, in order to arrive at the union influence on compensation outcome.

It should further be noted that reciprocal relationships and feedback among the basic components of the model will not be a major concern in the analysis. Certainly, all of the elements found in the model

are potentially interrelated. However, the association which is of primary importance to this study is that which possibly exists between unionization and compensation outcome. Other linkages are relevant only insofar as they assist in isolating the unionization/compensation relationship.

Specific variables included within the principal model components, and their hypothesized relationships with the dependent variable follow. The dependent variable, public employee compensation outcome, is composed of two factors: employee wages and employee benefits. The inclusion within the model of both aspects of overall compensation constitutes a distinct departure from the overwhelming majority of the literature and an important improvement over all previous empirical approaches in the field of public employee wage determination.¹²

I. Factors within the socioeconomic environment and their hypothesized relationships with the dependent variable include:

- A. Nature of the labor force, as measured by such variables as worker age, sex, education, is expected to vary positively with public employee compensation. Older workers, those highly-educated, and male workers would be expected, *ceteris paribus*, to earn more than younger, less-educated, and female workers.
- B. Cost-of-living, as measured by, for example, per capita personal income, is expected to vary positively with wages and benefits.
- C. Comparative wage standards/opportunity wage, is hypothesized to vary positively with employee compensation.

- D. Ability-to-pay of state and local governments, as measured by per capita revenue data, is expected to vary positively with employee compensation. This variable, which represents the short-term fiscal resources available to a public employer, is an income measure representing a combination of capacity and effort.
 - E. Population level and population density, are both hypothesized to have a positive relationship with the amount of wages and benefits of public employees.¹³
- II. Factors within the political/legal environment of state and local governments and their hypothesized relationships with the dependent variable include:
- A. Geographical location. It is expected that state and local government workers will receive higher compensation in particular areas of the country, specifically the Northeast and West.
 - B. The legal structure of collective bargaining as embodied in state legislation or executive and judicial decisions is expected to exert an influence on bargaining outcome, with public employees in those states which mandate collective bargaining receiving relatively greater compensation than their counterparts in other states.
 - C. State or local government structure, in terms of mayor-council, council-manager, or commission forms of government for municipalities, is expected to

influence employee wages and benefits in the following manner: the more professionalized the structure, the lower the wage impact of public employee unions. Thus, it would be expected that council-manager cities, regardless of the presence of unions, would not pay their employees as well as mayor-council cities. It is also hypothesized that cities with commission forms of government will pay their workers less than mayor-council cities, regardless of the presence of unions. In the case of state governments, it is expected that the more "capable" a state legislature, the less it will pay its workers when compared with "less capable" legislatures.

- D. Union political power, as measured by the percentage of private sector employees in nonagricultural employment belonging to unions, is expected to vary positively with the amount of pay and benefits gained by public employees. It would seem that strong private sector unions in a city or state would result in (1) wider acceptance--and perhaps support--of public union demands, and (2) increased political pressure on elected officials to grant these demands. This element may be considered to be a proxy for the union "threat effect."¹⁴

III. Finally, it is anticipated that the union variable, the existence or degree of unionization, will vary positively with employee compensation. It is expected that the

socioeconomic and political/legal factors listed above will exert the dominant influence on public employee compensation outcome, whether unions are present or not.

However, the unionization component is that element of the model with which the analysis is most concerned and toward which a great deal of the remainder of this work will be directed.

In Chapter Three, the broad model of public sector wage determination which has been outlined above will be applied to a specific occupational category: faculty at institutions of higher education.

NOTES

1. In fact, reliance on the sovereignty issue has been unrealistic since the Lloyd-LaFollette Act of 1912, in which the federal government granted its employees the right to join unions and petition the government with their grievances.
2. Although union positions regarding public employee strikes vary, work stoppages are acceptable to AFSCME, IAFF, and most other AFL-CIO affiliates. Those unions retaining a no-strike policy rarely enforce it at the local level (see Stieber, 1973: 171-192).
3. A monopsony is a buyer's monopoly. For example, the auto industry is the only "buyer" of auto worker labor. It enjoys a monopsony over its labor supply.
4. The Wellington and Winter thesis is rejected by Lewin (1973; 1976) who asserts that the public sector is not immune from the forces of the market. In support of his argument, he cites the layoffs, wage cuts, and public resistance to compensation increases for public workers that arose during the 1974-1975 recession, and the new emphasis in some large American cities on productivity and developing alternatives to union labor. Lewin further observes that some governors and large city mayors have recently adopted policies designed to reduce or impede the political access of public employees. In some cases, he concludes, the strike may be a less costly alternative than other forms of impasse resolution.

5. Political activities of federal employees are restrained by the 1939 Hatch Act, which was extended by Congress in 1940 to state and local government employees who are paid with federal funds. The original Hatch Act and similar "little Hatch Acts" enacted by individual states have had little effect on the political activities of public employees (see Nigro, 1969: 55). Also, designated lobbyists are subject to registration and some regulation in 38 states (see UCLA Law Review, 1972, Appendix A, pp. 961-62, for a table summarizing state lobbying regulations as of 1972). These regulatory schemes also are ineffective as (1) many public employees are not covered; (2) most of the regulations were originally intended to protect public employees from political coercion--not limit their political power; (3) they prohibit only individual political activities--not union actions; and (4) the existing regulations are not strictly enforced. Thus, most "little Hatch Acts" and other regulations are ineffective in protecting the public collective bargaining process from political pressures (UCLA Law Review, 1972: 984-87).
6. For example, the judiciary can issue an injunction against a sanitation workers' strike.
7. Reder (1975) disagrees with the validity of this proposition in "The Theory of Employment and Wages in the Public Sector," and advances the conventional economic assumption that all decision-makers act as "utility maximizers." Politicians, for example, would consider vote tradeoffs resulting from various political actions; restrictions on public employee political activity would be viewed as "taxes" on the use of the public workers' time (pp. 3-15). In effect, Reder conceptually stretches public sector labor relations to fit a procrustean bed of economic theory.

8. Gerwin refers to a "controlling" occupation, meaning one which other employee groups tend to compare themselves with for salary purposes (e.g., protective services and teachers). He remarks that this concept is analogous to Dunlop's "key" occupation in private sector employment.
9. Monopsony conditions may also exist in the case of hospital nurses. Devine (1970) says this frequently is true for nurses in public employment, with the local hospital association exercising monopsony power.
10. Kochan and Wheeler's findings regarding the statistically significant effects of the comprehensiveness of a state's collective bargaining law on bargaining outcomes are confirmed by Gerhart (1976: 342-43).
11. About one-third of all government employees work in public education; a large majority of these workers are classroom teachers (Moskow, Loewenberg, and Koziara, 1970: 129). Their sheer numbers, along with the aggressive political and organizing activities of teachers, insure that these employees are frequently in the public eye. The intense rivalry between the two largest teacher organizations--the NEA and AFT--also fosters a great deal of media attention. The teacher union movement has had a substantial influence on the power structure of public education at both the state and local levels and has also exerted considerable pressure on the power structure of many state and local governments. Such factors perhaps have contributed to the scholarly interest in the impact of teachers' unions on compensation. Examples of some of the general literature on teachers and collective bargaining include: C.W. Cheng (1976);

M.H. Moskow (1966); E.B. Shils and C.T. Whittier (1968); C.R. Perry and W.A. Wildman (1970); S.M. Elam, et al. (1967); and T.M. Stinner, et al. (1966).

12. One of the very few studies to consider nonwage benefits is that conducted by Lurie (1961) on the union impact on the wages and benefits of transit workers. He found that union employees enjoyed relatively more vacation time, higher overtime pay, and other fringe benefit advantages over their nonunion counterparts.
13. A fifth socioeconomic variable, conditions in the wider economy, would be included in a study over time. However, as the data in this study are limited to specific points in time, it is assumed that such factors as the rate of inflation are constant.
14. The nature of the multilateral bargaining relationship is not included in the model because of the lack of a satisfactory proxy for which data are available. Past studies have been forced to rely on attitudinal survey questionnaires for this type of information; such is beyond the framework of this study.

CHAPTER THREE

COLLECTIVE BARGAINING AND FACULTY COMPENSATION¹

During the "golden academic age" of the 1960's, the number of faculty at institutions of higher education in the United States doubled, enrollment increased by 125 percent, and the average faculty salary rose by about 75 percent (see Garbarino, 1975: 2-3). New colleges and universities were constructed to meet the rising demand for higher education, and new programs were created to take advantage of diverse areas of specialization sought by the growing student population. Then, by the 1969-1970 academic year, the bullish economic market in academia suddenly was over. A new period of austerity set in, as institutions were forced to retrench in order to cope with declining enrollments and decreased federal and state government financial support. The golden academic age of the 1960's had suffered, for many, an untimely demise.

Meanwhile, important structural and functional changes had occurred in higher education concomitant with the economic peak and valley. Substantial alterations had been made with regard to the institutional nature of colleges and universities--the institutions had, in general, become larger and more bureaucratic. By 1974, 70 percent of all faculty in public institutions found themselves in multi-campus units (Garbarino, 1975: 7-9). Functional relationships had also undergone change, as power shifted from the faculty to the administration.

These changes in institutional structure and function were perceived adversely by many faculty. Along with lessened faculty input to the institutional decision-making process came feelings of depersonalization and a loss of a sense of collegiality among faculty and administration (see Ladd and Lipset, 1973: 4); an adversary relationship began to develop. Compounding these subjective feelings were some serious blows to the pocketbook, as the rate of salary and benefit increases was reduced, work loads were heightened, and faculty and staff reductions became widespread. Meanwhile, demands for faculty accountability were heard from state legislatures, alumni, and students. Higher education and its spokesmen on campus no longer were the darlings of American society.

Because of such changes as those mentioned above, combined with a more favorable legal and social climate in the late 1960's,² higher education faculties in the United States began to overcome their traditional aversion to collectivization. Professional autonomy and status were relegated to seats at the back of the classroom as the drive for faculty unionization³ commenced in many institutions.

Unions first entered higher education in 1963, when faculty of The Milwaukee Technical Institute, a two-year college, began formal collective bargaining through a local faculty association. The first four-year institution to unionize was the Merchant Marine Academy in 1966. Today, faculties in over 450 institutions of higher education have voted in formal bargaining agents--over 17 percent of such institutions in the United States. In all, more than 117,000 faculty were represented by unions at the end of 1976

(Garbarino and Lawler, 1977: 106). Table 6 provides a look at the growth of faculty unionism from 1966 through 1976.

From the table, one may observe the tremendous increase in faculty unionism, particularly after 1967. The substantial spurts in the number of represented faculty in 1969 and 1971 are attributable in large part to the collectivization of the City University of New York (CUNY) and State University of New York (SUNY) systems, respectively. The underlying reasons for the slowdown in organizing during 1973 and 1974 remain unclear, but it would appear that this was only a temporary phenomenon.

About 58 percent of the union institutions are two-year community colleges, but about two-thirds of all unionized faculty members are employed in four-year institutions. Almost 90 percent of the unionized faculty are situated in public institutions of higher education (Garbarino, 1974: 48). Three-fourths of all unionized faculty members are located within New York, Rhode Island, Hawaii, and Michigan.⁴ It would seem, therefore, that faculty collective bargaining is largely a phenomenon of public, four-year colleges and universities in the Northeastern section of the United States. However, faculty support of unionism appears to be widespread: a Carnegie Commission Survey in 1969 showed 59 percent of all faculty favored unionism, and a followup American Council of Education study during 1972-1973 revealed that the figure had then reached a support level of 66 percent (see Ladd and Lipset, 1973).

Despite broad faculty support for unionization throughout the United States, most of the union gains have been restricted to those

TABLE 6. COLLECTIVE BARGAINING AGREEMENTS
IN U.S. INSTITUTIONS OF HIGHER EDUCATION, 1966-1976

Year	Total No. Institutions	Total No. Faculty	Four Year Institutions	Four Year Faculty
1966	23	5,200	1	200
1967	37	7,000	2	300
1968	70	14,300	10	3,300
1969	138	36,100	26	16,100
1970	177	47,300	40	23,400
1971	245	72,400	84	45,400
1972	285	84,300	102	54,600
1973	310	87,700	121	57,400
1974	331	92,300	132	60,600
1975	398	102,300	162	67,300
1976	450	117,000	189	78,970

Source: Garbarino, 1975: 56; Garbarino and Lawler, 1977: 106.

states (especially the four mentioned above) with permissive public employee collective bargaining legislation. Garbarino (1975: 66) demonstrates the strong relationship between the type of state public employee bargaining law and the degree of faculty unionism, asserting that, "It is impossible to escape the conclusion that, at least for public institutions, the type of applicable collective bargaining legislation in the various states so dominates the situation that it is difficult to find other variables that have a significant independent effect."

It is quite another matter, however, to determine why public institutions have dominated the ranks of unionized faculties, while 98 percent of the private colleges and universities remain unorganized. Although the labor relations of public institutions are governed by state laws, private colleges and universities have been vested with formal collective bargaining rights since 1970, the year in which the National Labor Relations Board extended its jurisdiction to include them under the National Labor Relations Act (Cornell University 183 NLRB 41, 1970 ccit NLRB Para. 22,006).⁵ Following the 1970 NLRB decision, many predicted that faculty collective bargaining would spread rapidly throughout the private colleges and universities (for example, see Schramm, 1972). This did not occur, and no truly satisfactory explanations have been forthcoming for the reluctance of private sector higher education faculties to organize.⁶

A related topic is the issue of institutional quality and the propensity for unionization. Aussieker and Garbarino (1973) tentatively conclude that faculty unionization has been concentrated in relatively low-quality institutions of higher education. This finding has

generated a "great debate" among various scholars. Gold (1974) challenges the Aussieker and Garbarino conclusion, showing that while the number of organized faculties is concentrated among lower quality schools, there are also more institutions which fall into the lower quality category. When the proportion of institutions organized within each quality rating is examined, Gold finds no large differences based on the measure of quality and concludes that "the data do not support the hypothesis that the incidence of faculty unionism is greater the lower the quality level of institutions" (Gold, 1974: 326). In a reply to Gold, Aussieker and Garbarino (1974) attribute her divergent findings to measurement differences. Updating his earlier data, Garbarino (1975: 75) again asserts that "there appears to be a clear-cut tendency for unionization to be concentrated in the institutions that are in the lower tiers of the quality distribution." He notes that only four top-quality institutions have organized faculties: Brooklyn Polytechnic Institute and three colleges within the CUNY system. Some support for Garbarino's position is found in the 1969 Carnegie Survey and the 1971 Stanford Survey, both of which indicate that faculty in the lower tier of academe favor collective bargaining more frequently than their counterparts in higher quality institutions (see Ladd and Lipset, 1973). Resolution of the institutional quality/unionization relationship awaits the availability of better data.

Prior to turning to the major thrust of this chapter--the analysis of the impact of collective bargaining on faculty salary and benefits -- a brief description of the principal union actors in this sphere of labor relations will be offered.

The Faculty Unions

Although state civil service organizations and faculty governing bodies have participated in some elections as candidates for faculty bargaining agents, the large proportion of faculty who engage in collective bargaining are represented by one of three organizations: the National Education Association (NEA), the American Federation of Teachers (AFT), or the American Association of University Professors (AAUP). The NEA is the oldest of the three organizations, having been founded in 1857. It served primarily as a professional organization for public school teachers until the 1960's, when it began to expand its membership base and become active politically as a bargaining agent. Today, the strength of the NEA in higher education lies at the community college level. By the early 1970's, the NEA had established itself as the largest faculty union in terms of the number of faculty represented in collective bargaining agreements. Table 7 presents total faculty organization membership figures.

Like the NEA, the AFT has served primarily as a teacher's organization. However, the AFT was founded in 1916 as a union--not a professional society. From the beginning it has been affiliated with the national labor movement. Although the AFT grew slowly until 1960, from that year until 1974 its membership increased from 56,000 to 400,000, mostly public school teachers. The AFT was the pioneer of faculty unionism, and it has always acted as a trade union, advocating work stoppages, formal contracts, and an adversary relationship with college administration.

Both the NEA and AFT have concentrated their organizing efforts at two-year colleges and lower tier, four-year institutions. During recent years there has been a great deal of discussion concerning a forthcoming merger between the two organizations--a merger which if, consummated,

TABLE 7. MEMBERSHIP OF THE THREE LARGEST
FACULTY UNIONS, 1976, ALL INSTITUTIONS

Union	Number of Local Chapters	Membership*	Number of Local Chapters With Bargaining Rights
AFT	275	47,200	94
NEA	355	54,300	160
AAUP	1,365	83,300	38

*Membership figures represent all individuals belonging to an organization. Totals are not available for the number of members in chapters with bargaining rights.

Sources: GERR (March 9, 1976); J.W. Garbarino and J. Lawler, "Faculty Union Activity in Higher Education--1976," Industrial Relations 16 (February): 105-06.

would create the largest union in the United States.

There has also been a proposal to create a formal alliance between the NEA and a third faculty organization--the AAUP. So far, all national merger efforts have come to naught⁷ (see Academe, 1977; Semas, 1977).

The AAUP evolved out of the ferment in higher education during the late 1800's and early 1900's as a professional association devoted to university professors (Strauss, 1967). Its major concerns, until quite recently, were with such professional issues as academic freedom, tenure, and due process. Until 1971, it successfully resisted trade union activities and collective bargaining, but growing pressures from the AFT and NEA, along with declining membership roles, have forced the AAUP into a more active political role. Today, its greatest success has been in organizing faculties in four-year institutions.

Other faculty are represented in bargaining sessions through independent bargaining agents which are not affiliated with any parent organization. As of 1974, nine, four-year faculties had selected independent agents.

Local chapters of the NEA, AFT, and AAUP are quite decentralized, as the national organizations exercise little formal control over their affiliates (Garbarino, 1975: 17). According to Kemerer and Baldrige (1975: 7), all of these organizations, including independent bargaining agents, act similarly at the bargaining table. As Ladd and Lipset (1973: 106) have stated, "it must be stressed that the policy differences separating the affiliates of the three national groups ... are striking by their absence." Therefore, the analysis which follows will not be concerned with the specific bargaining agent which serves as faculty representative.

The Impact of Collective Bargaining
on Faculty Compensation

The question to be addressed at this juncture is what effect collective bargaining has had on the amount of salary and benefits received by faculty members. Because of the recency of the phenomenon of collective bargaining in higher education, very few attempts have been made to investigate its consequences for colleges and universities in general or for faculty members employed at unionized institutions. Indeed, much of the discussion in this area has been rather subjective and speculative in nature. For example, Bucklew (1971) addresses the potential fiscal implications of collective bargaining for institutions of higher education, while Angell (1973) attempts to draw general implications from an analysis of 23 community colleges in New York State. More comprehensive treatments of various impacts of faculty bargaining are offered by Garbarino (1975) and Kemerer and Baldrige (1975). Garbarino (1975: 256, 121) states that one of the most important changes faculty unions have caused is the establishment of effective grievance procedures, and that in the future, "the most positive aspects of faculty unionism will be (1) to expand professional processes to those institutions where faculty essentially have been disenfranchised for years, and (2) to extend rights beyond the tenured faculty."

Kemerer and Baldrige concentrate their efforts on the impact of collective bargaining on the governance of the university. Based on extensive mail surveys of university presidents and heads of bargaining units, and seven case studies of unionized institutions, the authors conclude that faculty unions have both positive and negative effects on personnel policies. For example, the unions help raise professional standards in some institutions but

adversely affect the peer evaluation process in others, replacing it with an emphasis on job security (Kemerer and Baldrige, 1975: 7-8). Kemerer and Baldrige (1975: 194) dwell at some length on the impact of bargaining on the power and authority structures in the academic setting, noting that while university and college presidents believe they have lost power to unionized faculties, this view is not substantiated by the case studies, which indicate that bargaining has encouraged a shift in power in favor of upper-level administrators. The authors also assert that faculty unionism has reduced student influence through bypassing them as third parties in the bargaining process (Kemerer and Baldrige, 1975: 201-206). In the future, Kemerer and Baldrige (1975: 10-11) foresee (1) a realignment of the major power blocs in the academic environment from senior professors to their more junior colleagues, (2) greater procedural protection and job security for faculty, and (3) a stronger faculty voice in institutional decision-making. The authors downplay the potential economic impact of faculty unionism, stating that "aside from the exception of a few community college faculty and nonteaching professional groups, dramatic increases in economic benefits are not the main fruits of collective bargaining; rather, for most academicians, bargaining is the best means of securing job security" (Kemerer and Baldrige, 1975: 208).

The evidence would seem to contradict Kemerer and Baldrige, as some faculty (at both two and four-year schools) have reaped substantial compensation increases as a result of collective bargaining. The most extreme example is that of the 1969 contract negotiated by the faculty at CUNY, which provided for annual increases reaching a peak of \$31,375 for a full professor in 1971-72. Another illustration is

the 1970 contract at St. John's University, which contained a 21 percent across-the-board salary increase over two years for full-time faculty, along with sizable increases in fringe benefits. These are not isolated cases, for the essence of any union is, in large part, to advance and protect the economic interests of its members. As two observers have noted, "To a high degree (faculty) unions have contributed substantially to the economic welfare of their constituencies ... economic gains more than any others fertilize unions and give them the strength with their constituency that is necessary for their organizational survival." (Fisk and Duryea, 1973: 213-14).

Yet, few empirical analyses have been conducted for the purpose of quantifying the relative amount of economic benefits faculty unions achieve for their members. With a few exceptions, those studies which are found in the literature are clearly inadequate. Bain (1976), for instance, attempts to isolate the importance of various economic and political variables in determining the wage levels of professors at CUNY over a period of years. While he finds faculty salaries did rise faster after a union contract was negotiated through the AFT/NEA bargaining agent, Bain does not account for many possible nonunion influences on the increased salaries, and he chooses to ignore the salience of fringe benefits. In addition, it would take a long stretch of the imagination to generalize from conditions prevailing at CUNY to the rest of the American academic scene. Garbarino (1975: 203-08) is guilty of a similar individualistic fallacy in matching eight pairs of community colleges to determine compensation differences from 1965 to 1973. With his very limited sample, Garbarino finds no significant union/nonunion salary differentials. This illustrates, he says, "the importance of

broader economic, political, or public employee phenomena in salaries and compensation and the insidious nature of union and nonunion comparisons using the data available at present." Based on his "unsystematic mix of interviews, case studies, contract analysis, and intuition," Garbarino (1975: 170-71) advances two propositions: (1) faculty salaries in public institutions have, in general, moved in line with overall state civil service salaries; and (2) while faculty unions initially may win larger salary increases than those granted to state civil service employees, these increases are temporary, soon declining to the equivalent of the civil service rate. In addition to the studies by Bain and Garbarino, others (Fisk and Duryea, 1973; Carr, 1973; Mortimer and Lozier, 1973) also have employed what is basically a case study approach in examining compensation packages resulting from contracts at unionized institutions.

Few studies have progressed beyond the case study level in focusing on how much collective bargaining affects the wages and benefits of faculty members. In one of the rare efforts, Birnbaum (1974) matches 88 institutions operating under a collective bargaining contract with 88 comparable nonunion campuses in order to determine average faculty compensation differences between 1968 and 1972. Institutions are matched in accordance with control (public, independent, or church-related), level of program offerings, AAUP-determined compensation level, and, to a lesser extent, size and geographic location. The study compares the average compensation increase for the two groups over a four-year period, and finds that the annual compensation received by unionized academicians exceeded by \$777 that realized by their nonunionized counterparts. The largest gains were made by

unionized faculties at public four-year colleges (\$1,157) and public M.A. degree-granting universities (\$883). These differences were determined by Birnbaum to be statistically significant at the .01 level. In a followup study, Birnbaum (1976) updates his data through 1975 for 70 of the original matched pairs. He finds "that while increases favoring unionized faculty continue in public four-year colleges and independent institutions, they may have stabilized at public universities and been reversed at public two-year institutions" (Birnbaum, 1976: 116). For the entire sample, the compensation advantage of unionized institutions continued to grow at a statistically significant level. Taken together, institutions with collective bargaining paid their faculties an average compensation of \$19,803 in 1974-75, compared to \$18,659 at nonunion institutions--a difference of \$1,144. (The overall difference for 1972-73 was recalculated at \$970 for the 70 matched pairs, replacing the earlier figure of \$777). However, the rate of growth in compensation at the union and nonunion schools had stabilized somewhat during the 1972-75 period. This leads Birnbaum to conclude that while increases favoring union institutions continue, they appear to be moderating somewhat after an initial, union-inspired jump in compensation.

Although Birnbaum's two studies constitute useful contributions to the literature by providing systematic treatments of compensation differences between union and nonunion institutions, some methodological problems exist. The primary difficulty lies in his failure to account for many factors other than unions which may affect changes in compensation levels. By neglecting such factors, Birnbaum implicitly assumes (1) that all other influences on compensation affect union and

nonunion institutions in the same manner, and (2) that all of the schools evidenced similar patterns of compensation growth before the base period.

Contrary to the findings of Birnbaum, Brown and Stone (1976) determine that compensation increases in union institutions did not differ significantly from those found in nonunion schools from 1970 to 1976. Using a different statistical technique, Brown and Stone compare the six-year rate of compensation growth in 37 four-year union institutions with the annual national increase for all four-year campuses during the same time period. Their data indicate that net annual growth rates in compensation at unionized institutions "were not unusually high under collective bargaining In general, there appears to be no significant impact on salary, compensation and promotions associated with the adoption of collective bargaining by college and university faculty" (Brown and Stone, 1976: 14). While in some ways Brown and Stone's effort is an improvement over the Birnbaum studies (for instance, their data are broken down by Assistant, Associate, and Full Professor rankings), it, too, suffers from some methodological problems. Two things particularly stand out: (1) the neglect of nonunion influences on compensation rates and the accompanying assumption that these influences operate randomly on both union and nonunion institutions, and (2) the inclusion of data from union schools in the aggregate data for all four-year campuses. Other criticisms include Brown and Stone's use of the rather atypical data from the CUNY system⁸ and the restriction of their sample to institutions situated in the Northeastern and Midwestern sections of the United States.

In order to overcome the limitations of the Birnbaum and Brown and Stone studies, it is necessary to consider those forces other than unionization which are potentially associated with faculty compensation levels. Although Birnbaum did attempt to hold constant certain institutional factors through his matching procedures, only one existing study has employed a cross-sectional multivariate analysis to account for variance among faculty compensation levels in institutions of higher education. In a 1973 article, Cohn uses 13 explanatory variables in a regression analysis to account for 70 percent of the variance among faculty compensation levels for 204 institutions of higher education. Public institutions evidence slightly higher compensation than private and church-related schools. Quality of an institution (measured by such variables as National Merit scholars, percent pursuing studies following graduation, and student/faculty ratio) is also shown to be quite important. Finally, state per capita income, a measure of the financial well-being of an institution's environment, is positively related to compensation levels. Cohn did not include a unionization variable in his analysis. However, it is useful to incorporate some of his findings in the model of faculty compensation to follow.

The Determinants of Faculty Compensation: A Model

As previously noted, in order to achieve the major goal of this analysis--the determination of the impact of collective bargaining on the wages and benefits of public employees--it is necessary to account for those forces other than unionization which are associated with compensation levels. Therefore, in this section a model of faculty compensation will be specified. Later, the model will be tested in a multivariate analysis in order to isolate the impact of unionization.

Following the general model of public employee compensation developed at the end of the previous chapter, these elements would seem to be of importance in determining the union influence on faculty salary and benefits:

I. Socioeconomic Environment

- A. Nature of the professorial labor force.
- B. Cost-of-living in the geographical area in which the institutions are located.
- C. Comparative wage standards at nearby colleges or universities, or the wages which faculty members could obtain for similar employment elsewhere.
- D. Financial situation of the institutions.
- E. Institutional size.

II. Political/Legal Environment

- A. Geographical location of the college or university.
- B. Legal structure pertaining to collective bargaining within the state.
- C. State government legislative capability or professionalism.
- D. Union political power within the state.

III. Unionization

- A. Whether or not the college or university faculty engages in formal collective bargaining with the administration.

The analysis to follow diverges somewhat from the general discussion, as data from both the public and private sectors are included.

Owing to the unique nature of higher education and the role of faculty collective bargaining in American colleges and universities, it seems desirable to examine both public and private institutions. At a later point in the analysis, the institutions will be separated according to public or private control in order to obtain some insights into the different forces operating on faculty compensation within the two spheres. In a sense, by dealing with similar phenomena in both the public and private spheres, this chapter may be thought of as a bridge between the two sectors. Later, the discussion will focus solely on public employee unionism.

The Data

The Sample. The study reported herein generally follows the matching procedure initially developed by Birnbaum (1974) except that the present analysis is concerned only with four-year institutions and the time period is more current. Of the 74 four-year colleges, universities, and state-wide systems listed by Finkin, Goldstein, and Osborne (1975: i, ii) as having collectively represented faculty in 1974, matches were found for 46 of them based on the criteria of AAUP category and compensation scale, control (public or private), geographical proximity or cultural similarity, and institutional size.⁹ Names of matched institutions are found in the Appendix at the end of this chapter. Certain collectively-organized faculties were excluded either because of inadequate data or because of unique characteristics which might have biased the findings. For example, the U.S. Merchant Marine Academy was not included in the sample because it is a federal institution, and the entire City University of New York system was excluded due to its unusually high salary levels and location within the rather atypical confines of New York City.¹⁰

The total sample of 46 pairs is composed of 11 pairs of Category I institutions, defined by the AAUP as those offering at least 15 doctorates in at least three nonrelated disciplines over the past three years; 27 pairs of Category IIA schools, which award degrees above the baccalaureate level, but are not included in Category I; and eight pairs of Category IIB institutions, which offer only the baccalaureate degree or an equivalent (AAUP Bulletin, 1975: 125). The AAUP compensation scale on which the matches were made was based on how well past faculty compensation increases compare with the national growth in annual per capita personal income (AAUP Bulletin, 1970: 185). All of the matches are congruent in terms of public or private control of the institutions. Where possible, those unionized schools that have a religious affiliation are matched with their counterparts. In all, there are 27 pairs of public schools and 19 pairs of private institutions.

With respect to geography, an effort was made to match union and nonunion institutions within the same state. Where this was not feasible, matches were found in states which closely resemble those states with the collectivized faculties in question by employing the cultural similarity classification of American states developed by Luttbeg (1971).¹¹ In order to control further for geographical location and at least partially control for cost-of-living, the institutions were also paired by the level of urbanization of the area in which they are located. Finally, an attempt was made to control for institutional size (analogous to size of establishment in private sector wage theory) by matching schools that had similar fall enrollments for the base year, 1969-70.

Thus, through the matching procedure it is possible to hold constant public or private institutional control, state geographical location, urban or rural location, and institutional size. In effect, the matching procedure at least partially accounts for the following elements in the model of faculty compensation: (1) cost-of-living differences associated with population levels where the colleges and universities are located; (2) size of the institution; (3) state legal structure; (4) state government legislative capability/professionalism. The remaining elements will be treated below in a discussion of the independent variables used in the multivariate analysis.

Special consideration was necessary for the State University of New York system and for the four states in which all state colleges bargain as a single unit. Data for SUNY were aggregated at two levels: schools of Arts and Sciences (10 institutions) and Category I institutions (Albany, Binghamton, Buffalo, and Stony Brook campuses). Mean values were calculated for the variables characterizing these institutions at the two levels. Means for SUNY Arts and Sciences and Category I institutions were matched with those calculated for the California State Colleges system and the University of California system, respectively. As for the states in which state college faculties bargain as a single unit--Nebraska, New Jersey, Connecticut, and Vermont--one institution was selected as representative of each state system and matched with a single noncollectivized counterpart.

The Dependent Variables. Three dependent variables are the subject of this analysis: average faculty compensation for 1969-70, average compensation for 1974-75, and percentage increase in average

faculty compensation, 1969-70 to 1974-75. The compensation data account for annual faculty salaries and the dollar value of annual fringe benefits. The academic year 1969-70 was selected as the base period for two reasons. First, it was desirable to assess the impact of faculty unionization over a five-year period, and the most recent AAUP data on faculty compensation are for 1974-75. Second, since very few faculties were unionized in 1969-70 (only four in the sample),¹² data collected from that academic year were contrasted with data from the 1974-75 academic year in order to examine the "before and after effect" of collectivization on faculty compensation. All compensation data were collected from AAUP Bulletins (June, 1970; August, 1975). One other point should be mentioned with regard to the data for average faculty compensation. The data were not divided by faculty rank. While recognizing that promotions certainly influence average compensation levels, it is believed that this influence, as far as the nature of the sample is concerned, is random.¹³

The Independent Variables. Seven independent variables were selected on the basis of the model. Union and nonunion faculties were dichotomized through a dummy variable, indicating whether or not the faculty had been certified for collective bargaining through an elected agent. Institutional control (public/private) was also coded as a dummy variable, primarily for use as a statistical control. Nature of the faculty labor force was measured by the percentage of faculty members holding the doctorate degree or its equivalent (Furniss, 1973). In order to determine if faculty collectivization is a function of the labor environment within the state in which the institution is located, and to measure a possible threat effect, the percentage of state labor union membership in nonagricultural employment was included as a variable.

Following Cohn (1973), state per capita personal income was added to the analysis to reflect the wealth of the institution's immediate environment and as a statistical means for dealing with cost-of-living. Both percent labor union membership and per capita personal income were obtained from the 1972 Statistical Abstract. Institutional quality was operationalized by ratings provided in The Gourman Report (Gourman, 1967). (The interval level scores assigned by Gourman to higher education institutions throughout the United States take into consideration a great many variables thought to be surrogate measures of quality). The final independent variable used in this study was percentage average faculty compensation increase, 1964-69, obtained from AAUP sources (AAUP Bulletin, 1965 and 1970). This variable was employed because of the "boom and bust" syndrome often observed with regard to faculty salaries, and because recent salary increases may be only an incremental continuation of an upward trend that began much earlier. For example, it is possible that those institutions that granted large percentage increases to faculty in the early and mid-sixties might have been forced to slow down the rate of increase during the period observed in this study.

The inclusion of a measure representing comparative standards or opportunity wage for faculty did not seem appropriate to the analysis. The matching of geographically proximate colleges and universities might account for this variable to some extent, but rather severe problems are involved in ascertaining a valid opportunity wage for college professors.

Originally, an eighth independent variable was utilized in the analysis--total institutional revenue per student--in order to account for the ability-to-pay of the individual schools. However, the

revenue variable was found to be associated closely with the measure of institutional quality ($r = .66$) and subsequently was dropped from the study.

In sum, it was expected that all but two of the independent variables would vary positively with faculty compensation. Thus, upper-tier public institutions containing unionized, terminally-educated faculties, and located in highly unionized states with large per capita personal incomes, would award their faculties with greater salary and benefits than other schools. The two remaining independent measures--institutional control and 1964-1969 average compensation increase--were used primarily as statistical controls, with the expectation that public control and high previous compensation increases would be positively associated with faculty compensation.

Findings

Before examining the results of the multivariate analysis, it might be instructive to make some basic comparisons between the two groups of institutions--union and nonunion.¹⁴ Table 8 reveals that in 1969-1970, schools which did not subsequently undergo collective bargaining were actually paying faculty about \$200 more on the average than those who later unionized. By 1974-75, however, this had changed considerably. Union institutions surpassed their noncollectivized counterparts by an average of \$625. This shows that organized faculties over the period of five years actually gained over \$800 more than the unorganized group. Unionized faculties achieved a higher average increase in compensation between the two periods by seven percent (43 percent increase compared to 36 percent). It might also be noted that of the 46 matched pairs, the union faculties received the larger percentage increase in 32 instances.

When the two groups are compared in light of the size or purpose

TABLE 8. AVERAGE COMPENSATION FOR UNION AND
NONUNION INSTITUTIONS, 1969-70 AND 1974-75

Status, 1974-75	Average Compensation			
	1969-70	1974-75	Differ- ence	% Increase
Union (N = 46)	\$12,941	\$18,503	\$5,562	43.0
Nonunion (N = 46)	\$13,142	\$17,878	\$4,736	36.0
Difference	\$ - 201	\$ 625	\$ 826	7.0

of the institution (the AAUP Categories I and II), the data in Table 9 suggest that the real gains in compensation among collectivized campuses have come among faculties at the less comprehensive institutions as opposed to the major universities. Both types of institutions, however, reflect differentials in favor of those places that have embraced collective bargaining. The net difference over five years is almost \$1,000 for smaller campuses compared with a \$328 difference for major schools. Among Category II schools the increase for collectivized faculties is almost 9 percent greater than for their nonunion counterparts; for major institutions the differential in favor of the organized campus is only 2.4 percent.

When union/nonunion institutions are divided by the nature of control, public or private, important distinctions are again noted (see Table 10). In this case, private school faculties that went union gain appreciably more (a net difference of \$1,320) in contrast with their public school colleagues (net difference of \$547). This means, of course, that there is a wider five-year percentage differential between public and private schools than between institutions categorized by basic purpose.

To summarize this preliminary descriptive analysis it seems safe to say that the unionized professoriate did achieve larger monetary gains over the past five years than their nonunionized counterparts. These gains are particularly notable for faculties at less comprehensive schools and for those who are at private institutions. When schools are further divided by institutional purpose and means of control, the following net differences between union and nonunion faculties in average compensation are found for the five-year period:

TABLE 9. AVERAGE COMPENSATION FOR UNION AND NONUNION INSTITUTIONS,
1969-70 AND 1974-75, BY AAUP CATEGORY

		Average Compensation							% Increase in Average Compensation, 1969-70 To 1974-75		
AAUP Category *	N	1969-70			1974-75			Union/ Nonunion	Union	Non-union	Differ-ence
		Union	Non-union	Differ-ence	Union	Non-union	Differ-ence	Net Difference			
I	22	\$14,853	\$14,924	\$ -71	\$20,773	\$20,516	\$257	\$328	39.9	37.5	2.4
II (A,B)	70	12,340	12,582	-242	17,789	17,049	740	982	44.2	35.5	8.7

*Category I includes institutions that conferred an annual average of fifteen or more carried doctorates in the most recent three years in a minimum of three nonrelated disciplines. Category II includes institutions awarding degrees above the baccalaureate but not included in Category I and also those that award only the baccalaureate or equivalent degree.

TABLE 10. AVERAGE COMPENSATION FOR UNION AND NONUNION INSTITUTIONS,
1969-70 AND 1974-75, BY CONTROL (PUBLIC OR PRIVATE)

Average Compensation											
		1969-70			1974-75			Union/ Nonunion	% Increase in Average Compensation, 1969-70 To 1974-75		
Control	N	Union	Non-union	Difference	Union	Non-union	Difference	Net Difference	Union	Non-union	Difference
Public	54	\$13,363	\$13,476	\$-113	\$18,768	\$18,334	\$434	\$547	40.4	36.0	4.4
Private	38	12,467	12,546	-79	18,266	17,025	1241	1320	46.5	35.7	10.8

Private Category I (N = 6)	\$2,141
Private Category II (N = 32)	1,051
Public Category II (N = 38)	926
Public Category I (N = 16)	-352

The above division clearly shows that the big winners from the collective bargaining process have been those professors at major private schools; their colleagues at large public universities have actually lost ground financially to their nonunion brethren. The gains from bargaining at the lesser institutions have been somewhat comparable between public and private faculties. It should be noted that the major private school category contains only three pairs of institutions. Thus, the extraordinarily large gap between union and nonunion faculties in this group could be strongly affected by even one deviant institution.

While the matching procedure held constant some factors believed to influence faculty compensation, a more satisfactory method of assessing the impact of collective bargaining on faculty compensation is to systematically account for the potential effects of other forces. The study will turn now to an analysis in which multiple regression techniques are employed to predict compensation levels for an initial period (1969-70) and for a period five years later (1974-75). A third equation using the same independent variables is also presented to predict the five-year percentage increase in average faculty compensation. Before these analyses are considered, certain zero-order relationships extant between some of the independent measures and the three dependent variables will be pointed out. Table 11 displays this information along with the means and standard deviations for all variables.

It might first be noted that the two average compensation figures (for 1970 and 1975) are closely associated ($r = .81$). Clearly, no major

TABLE 11. MEANS, STANDARD DEVIATIONS, AND CORRELATION COEFFICIENTS FOR ALL VARIABLES

	\bar{X}	S.D.	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}
X_1 Union/Nonunion	.50	.501	-									
X_2 Quality Rating (Gourman)	394.00	66.0	-.13	-								
X_3 % Ph.D.	41.50	14.0	-.25	.44	-							
X_4 % Union Members (State)	30.40	6.8	-.04	.28	.26	-						
X_5 Per Capita Pers. Inc. (State)	\$4342	\$445	-.06	.14	.18	.29	-					
X_6 % Comp. Inc. '64-'69	42.20	11.7	.13	-.09	.09	.07	-.04	-				
X_7 Public/Private	.59	.49	.00	.04	.26	-.15	-.23	-.06	-			
X_8 1975 Avg. Faculty Comp.	\$18,190	\$2451	.12	.60	.52	.47	.48	.12	.18	-		
X_9 1970 Avg. Faculty Comp.	\$13,042	\$1681	-.06	.72	.60	.40	.35	.30	.27	.81	-	
X_{10} % Comp. Incr. '70-'75	39.70	11.8	.32	-.14	-.08	.15	.26	-.28	-.13	.36	-.24	-

relative shifts in levels of compensation have occurred among the institutions under study. Several independent variables exhibit rather high simple relationships with both the 1970 and 1975 compensation variables, especially institutional quality (Gourman rating) and nature of the labor force (percentage of faculty with Ph.D. degrees). For the earlier period, both percent union members within a state and per capita income are rather strongly associated with the dependent variable. These two measures are even more prominent in their effects on 1975 compensation levels. It should also be mentioned that the average compensation increase for the earlier time period (1964-1969) shows some covariation with 1969 faculty compensation ($r = .30$) but little association with the dependent variable for the later period ($r = .12$). The union/nonunion dichotomous variable has little relationship to either of the two average compensation figures, but reflects the strongest simple correlation with the change measure ($r = .32$).

When the 1969-70 average faculty compensation variable is regressed upon the seven independent variables for the 92 colleges and universities, as shown in Table 12, a very high level of explained variance is achieved ($R^2 = .87$). But for the purposes of this research it is interesting to observe that the union/nonunion variable is of little consequence.¹⁵ The Beta (standardized partial regression coefficient) of .03 is the smallest among the set of independent predictors. It is positive, however, and the b coefficient indicates that organized faculties should receive about \$108 above the average compensation level for noncollectivized faculties, when other factors are taken into account. If one wants to consider the matched pairs as a type of sample for purposes of calculating tests of statistical significance, then all

TABLE 12. PARTIAL REGRESSION COEFFICIENTS AND T-RATIOS FOR
MEASURES OF AVERAGE FACULTY COMPENSATION, 1969-70 AND 1974-75,
AND COMPENSATION CHANGE, 1969-70 TO 1974-75
UNION AND NONUNION INSTITUTIONS

Variable	1969-70			1974-75			Percent Change		
	b	β	t-ratio*	b	β	t-ratio*	b	β	t-ratio*
Union/Nonunion	107.86	.03	.8	1240.40	.25	4.4	9.08	.39	4.2
Quality Rating	15.33	.60	13.2	16.10	.43	6.9	-.04	-.24	2.3
% Ph.D.	16.59	.13	3.8	33.97	.19	2.8	.08	.10	.9
% Union Members	.33	.14	3.1	.80	.22	3.7	.03	.16	1.6
Per Capita Pers. Inc.	1.10	.29	6.7	2.19	.40	6.7	.01	.22	2.2
% Comp. Incr. '64-'69	5.13	.36	8.6	2.42	.12	2.0	-.04	-.37	4.1
Public/Private	1092.59	.32	7.3	1207.26	.24	4.0	-2.33	-.10	1.0
R^2	.87			.75			.35		
F ratio	78.1			36.27			6.46		
Standard Error	638.6			1272.0			98.97		

*T-ratio of 2.01 would be significant at the .05 level (two-tailed test) for 46 matched pairs.

variables except the union/nonunion dichotomy are significant at least at the .05 level. The rating of quality, percentage compensation increase (1964-69), institutional control (public/private), and per capita personal income are all of considerable import in predicting 1969-70 compensation, as revealed by the strength of their Beta weights.

A somewhat divergent picture emerges when the focus shifts to the multivariate equation using 1974-75 faculty compensation as the dependent variable. Explained variance drops somewhat to a still respectable .75 . The regression coefficients for union/nonunion, however, become much more influential.¹⁶ The Beta for this variable (.25) is the third largest among the seven predictors, following institutional quality and state per capita income. The b value indicates that an increase of one unit in this measure (i.e., a unionized faculty) should make over \$1,200 difference in average compensation levels. Recalling the earlier description of union/nonunion differences, where only a \$625 gap appeared, some additional explanation is called for here. It might be noted from Table 6 that the union/nonunion variable has a simple correlation of $-.13$ with the quality measure and $-.25$ with the percentage of Ph.D.'s on the faculty. Moreover, these two variables both have a strong positive impact on compensation. Thus, when quality and professionalized faculty are accounted for along with other variables in the multiple regression analysis, the impact of the union/nonunion measure on compensation becomes even more pronounced than the simple mean differences would lead us to expect. In sum, given the particular variables used in this analysis, with these 92 institutions, one would predict that unionized faculties, on the average, should receive over \$1,200 more than those who remain unorganized.

Table 12 also provides the regression coefficients and R^2 when the percentage change measure is subjected to multiple regression analysis. Not altogether unexpectedly, the degree of explained variance declines precipitously for this equation ($R^2 = .35$). Many analyses of change in the social sciences employ an incremental model in which values for a given variable for an earlier time period are used to predict subsequent values of that measure. Such incremental models ordinarily produce rather high levels of explained variance.¹⁷ However, when lagged variables are not employed, as in the case here, change is often difficult to account for (see Sharkansky, 1967; and Asher and Van Meter, 1973). In any event, the change equation reveals that the union/nonunion variable is the most important single effect ($\beta = .39$) on changes in average compensation levels. The b value also shows that faculties under collective bargaining agreements should have received about a 9 percent larger average increase over the five-year period than was obtained by their unorganized counterparts. The much lower level of explained variance for the change equation suggests that institutions do not generally provide faculty compensation increases that are consistent from one year to the next. Rather, growth seems to be in spurts, with a period of relative stability followed by a period of relative increase in compensation.

In order to treat the issue of differential compensation effects in union and nonunion colleges and universities, separate regressions were run on each of the two groups. The results are reported in Table 13.

Rather striking is the substantially higher level of explained variance achieved in the regression equations for the union

TABLE 13. PARTIAL REGRESSION COEFFICIENT AND T-RATIOS FOR MEASURES OF AVERAGE
FACULTY COMPENSATION, 1969-70 AND 1974-75, AND
COMPENSATION CHANGE, 1969-70 TO 1974-75
UNION INSTITUTIONS (N = 46, t_1)

Variable	1969-70			1974-75			Percent Change		
	b	β	t-ratio*	b	β	t-ratio*	b	β	t-ratio*
Quality Rating	14.72	.57	34.7	12.20	.33	6.1	-.69	-.37	3.7
% Ph.D.	-14.00	-.10	5.4	27.26	.14	2.2	3.64	.37	3.2
% Union Members	1.95	.08	4.8	12.16	.35	6.4	.78	.44	4.4
Per Capita Pers.Inc.	1.23	.31	19.9	2.06	.36	7.1	.03	.11	1.1
% Comp.Incr. '64-'69	8.96	.63	38.3	5.03	.25	4.6	-.65	-.64	6.4
Public/Private	1957.48	.56	32.5	1442.86	.29	5.1	-105.74	-.42	4.0
R^2		.98			.84			.45	
F ratio		932.6			73.8			11.5	
Standard Error		219.4			1035.0			95.9	

*T-ratio of 2.01 would be significant at the .05 level (two-tailed test) for 46 institutions

TABLE 13. PARTIAL REGRESSION COEFFICIENTS AND T-RATIOS FOR MEASURES OF AVERAGE
(cont.) FACULTY COMPENSATION, 1969-70 AND 1974-75, AND
COMPENSATION CHANGE, 1969-70 TO 1974-75
NONUNION INSTITUTIONS (N = 46, t_1)

Variable	1969-70			1974-75			Percent Change		
	b	β	t-ratio*	b	β	t-ratio*	b	β	t-ratio*
Quality Rating	17.99	.71	15.9	17.97	.49	7.5	-.54	-.36	3.6
% Ph.D.	12.60	.11	2.2	37.98	.23	3.2	1.70	.26	2.3
% Union Members	3.97	.16	3.6	2.66	.07	1.2	-.20	-.13	1.4
Per Capita Pers.Inc.	1.20	.33	7.9	2.11	.40	6.5	.04	.19	2.0
% Comp.Incr. '64-'69	3.88	.26	6.5	-0.31	-.01	.2	-.42	-.48	5.3
Public/Private	809.30	.24	6.0	1185.30	.25		8.51	.04	.5
R^2		.87			.73			.35	
F Ratio		95.0			37.5			7.7	
Standard Error		611.5			1297.0			81.5	

*T-ratio of 2.01 would be significant at the .05 level (two-tailed test) for 46 institutions.

schools. This, along with the lower 1969-70 and 1974-75 standard errors for the union institutions would seem to indicate that these schools are affected by more similar determinants of the compensation they award their faculty members than the institutions found in the nonunion sample.

Another interesting observation concerns the variable influence of institutional quality and nature of the labor force on the two groups. From the 1969-70 and 1974-75 equations it would appear that these two measures are more important in determining the compensation of nonunion faculty. This may point to the non-professionalizing aspects of unionization in higher education. Once a faculty accepts collective bargaining, academic professionalism and institutional quality would seem to decline in importance as influences on compensation.

The figures presented in the 1974-75 and percent change equations for the union power variable--the percentage of private sector union members in the state within which the schools are located--show that there may be a spillover effect from private sector unionization. The possibility of such a spillover effect is particularly evident in the change equation ($\beta = .44$). Turning to the nonunion 1974-75 and percent change regression results, one notes that the private sector union influence measure does not achieve statistical significance in either equation. In fact, there is a negative relationship between the unionism variable and 1969-70 to 1974-75 compensation change ($\beta = -.13$). This could be interpreted as showing that a union threat effect does not influence the compensation granted to faculty in nonunion institutions.

A final issue which must be addressed in this analysis is

the variable impact of unions on public and private institutions. Table 14 presents regression results for the 1974-75 and change equations when the sample is divided into 27 pairs of public and 19 pairs of private schools.

Although the results may be somewhat spurious due to the small sample sizes, it is interesting to examine the regression outcomes. The most important item from the standpoint of this analysis is the impact of the union dummy. The union/nonunion variable is statistically significant in both regressions for the public and private subsamples. However, especially in the change equation, it appears that unions exert a slightly stronger effect in the compensation awarded faculty at private institutions. This would tend to refute the argument of Wellington and Winter described in the second chapter.

Other findings which emerge from the public/private dichotomy concern the direction of the quality variable relationship, the percent private sector unionization, and per capita personal income measures. While institutional quality was of almost equal importance in determining 1974-75 faculty compensation levels in both public and private schools, the variable shows a rather large negative association with private institution faculty compensation for the change measure ($\beta = -.42$). This would seem to indicate that lower-tier private college and universities began to award their faculties relatively greater compensation increases over the five-year period than the higher-quality schools.

As one might expect, the private sector union power variable is most important in the equations representing public institutions, especially during 1974-75 ($\beta = .25$). Evidently, the spillover effect of private sector unionization has its largest impact on public employees. Finally,

TABLE 14. PARTIAL REGRESSION COEFFICIENTS AND T-RATIOS
 FOR MEASURES OF AVERAGE FACULTY COMPENSATION,
 1974-75 AND COMPENSATION CHANGE,
 1969-70 TO 1974-75
 PUBLIC INSTITUTIONS (N = 27 PAIRS)

Variable	1974-75			Percent Change		
	b	β	t-ratio*	b	β	t-ratio*
Union	1134.52	.24	4.0	5.82	.31	3.1
Quality Rating	17.18	.48	6.3	-.01	-.01	.1
% Ph.D.	25.94	.14	1.8	.62	.09	.6
% Union Members	8.53	.25	3.9	.24	.17	1.6
Per Capita Pers.Inc.	1.78	.28	4.6	.02	.07	.7
% Comp.Incr. '64-'69	4.65	.18	2.8	-.36	-.34	3.2
R^2		.71			.18	
F Ratio		35.7			3.2	
Standard Error		1315.0			88.5	

*T-ratio of 2.06 would be significant at the .05 level (two-tailed test) for 27 pairs of institutions

TABLE 14. (cont.) PARTIAL REGRESSION COEFFICIENTS AND T-RATIOS
 FOR MEASURES OF AVERAGE FACULTY COMPENSATION,
 1974-75 AND COMPENSATION CHANGE,
 1969-70 TO 1974-75
 PRIVATE INSTITUTIONS (N = 19 PAIRS)

Variable	1974-75			Percent Change		
	b	β	t-ratio*	b	β	t-ratio*
Union	1294.03	.26	5.0	14.31	.50	6.2
Quality Rating	15.35	.41	8.3	-.91	-.42	5.4
% Ph.D.	33.30	.16	3.5	1.13	.11	1.3
% Union Members	2.83	.08	1.2	-.07	-.03	.3
Per Capita Pers.Inc.	3.01	.62	9.3	.09	.33	3.1
% Comp.Incr. '64-'69	2.49	.15	2.7	-.39	-.40	4.7
R^2		.82			.56	
F Ratio		67.0			18.5	
Standard Error		1085.0			98.2	

*T-ratio of 2.10 would be significant at the .05 level (two-tailed test) for 19 pairs of institutions

the wealth and cost-of-living measure--state per capita personal income--shows its greatest strength for the private institutions ($\beta = .62$, $\lambda = .33$). It would appear that private schools must rely heavily on their surrounding economic environment for monetary support.

Conclusion

The evidence presented here clearly suggests that, thus far, collective bargaining in higher education is associated with increased salary and benefits for organized faculties. The matching of 46 pairs of union and nonunion schools reveals that, as of 1974-75, collectivized faculties have an average \$625 differential over their unorganized counterparts. Regression analysis also indicates that unionized faculties should receive greater monetary benefits than their nonunionized colleagues. When compensation change (from 1969-70 to 1974-75) is employed as the dependent variable, the union/nonunion variable is the strongest single influence in the equation. It appears also that faculty at private colleges and universities reap a relatively larger compensation gain from bargaining than their public institution counterparts. The question that naturally arises at this point is whether these gains are likely to be temporary or enduring.

In many ways, the phenomenon of collective bargaining in higher education today is similar to the situation which prevailed in the private sector during the 1930's. For example, the legality of the collective bargaining process itself is still subject to question in higher education as it was in the private economy prior to the Second World War. Also, the scope of bargaining has yet to be resolved in faculty bargaining. Finally, a great deal of union competition characterizes the collective

bargaining scene in higher education today, as it did in the private sector during the 1930's. Such issues have created a great deal of turmoil in those institutions where collective bargaining has been implemented. When a similar situation prevailed in the private sector, union wage gains were quite high, as shown by Lewis (see Chapter 1, p. 21). According to Ross and Goldner (1950), Levinson (1951), and others, new unionism has, since 1890, almost always been a source of wage advantage for union workers. But the question has not been resolved as to the effects of continuing unionism. Therefore, it appears that one should expect that the compensation advantages offered by faculty unions may turn out to be of short duration. Of course, as the salary and benefit issues stabilize, future contracts may enlarge the scope of bargaining to other areas of concern.

Another factor which comes into play is the influence that the broader economic conditions have on faculty unionism and compensation. As our analysis in this chapter was cross-sectional, the forces operating within the larger economy were deemed to equally affect the dependent variables. However, the period from 1968 to 1975 was one of rather uncommon economic dimensions, with wildly varying years of stable prices and low unemployment, rapidly rising prices and low unemployment, and more recently, a heretofore unknown period combining rising prices, high unemployment, and economic recession. Institutions of higher education are caught up in these larger forces. Currently, for instance, higher education is experiencing a considerable lessening in the demand for its product. Public institutions, especially, find themselves increasingly in competition for scarce monies. Even the more prestigious

private schools are having a harder time raising needed revenues to keep pace with fast-rising costs. All of these things, particularly the effects of inflation, point to the reasons why faculty salaries have not continued to rise at the rate experienced in the early and mid-1960's.¹⁸

Such economic conditions, if they continue, are likely to make unions look even more attractive to many professors, since there is considerable agreement that unions can and do protect their membership more effectively in times of recession than in times of rapid inflation and higher employment. Indeed, as Kemerer and Baldrige (1975: 28-32) point out, faculty organize when they feel threatened by economic conditions. More specific economic causes of faculty unionism, according to these authors, are compensation issues, the fear of budget cuts, and teacher surplus--all factors currently extant in higher education. After citing the role of these unfavorable economic conditions in contributing to faculty approval of collective bargaining agents at the University of Hawaii and at three institutions in Rhode Island, Ladd and Lipset (1973: 100) conclude that "what immediate success faculty unionism has at academically stronger colleges and universities will be determined significantly by the short-run economic positions in which these institutions find themselves."

Thus, it is evident that most faculties organize primarily for *defensive* reasons. As long as the financial condition of higher education remains perilous in the United States, faculty members in "poor" colleges and universities will feel threatened economically and therefore be tempted to organize themselves into bargaining units. In institutions which are financially better off, the organizing impulse may still arise

from sources other than the economic, although the defensive nature of unionism remains. Some faculties have voted in bargaining agents in response to a perceived threat to their "rights" from the school administrators. For example, St. John's University unionized primarily because of a series of arbitrary administrative actions (see Garbarino, 1975: 136). Collective bargaining has come rather infrequently to those institutions where faculty influence and faculty rights have remained secure.

Despite fluctuations in the rate of acceptance of union bargaining agents,¹⁹ collective bargaining among faculty is almost certain to increase in the years ahead. As state collective bargaining legislation becomes more advantageous, faculty unionism will receive continued impetus. It appears to be only a matter of time, for instance, before "the sleeping giant of faculty unionism"--California--unionizes (see Semas, 1976: 5; "Faculty Unionism in the West", 1974).²⁰

What will be the consequences of the growth in faculty unionism? From the analysis presented in this chapter, it is apparent that there will be an impact on the amount of salary and benefits paid by colleges and universities to their faculty members. In many cases, faculty unionism may exercise an equalizing effect on salaries throughout state systems of higher education, improving those of professors in community colleges and state colleges relative to faculty at universities (Garbarino, 1975: 258). This "levelling" effect may also be found within individual faculties, as the compensation gap between assistant and full professor diminishes. Finally, seniority may replace merit in determining the primary basis for salary increases,²¹ and an atmosphere of egalitarianism may become the substitute for professorial professionalism.

NOTES

1. An abbreviated version of this analysis appears in Morgan and Kearney (1977).
2. For a good discussion of the environmental and institutional forces behind faculty unionism see Kemerer and Baldrige (1975: 42-69).
3. The term "union" will be used synonymously with collective bargaining to designate those faculties that have been certified for collective bargaining. It is recognized, of course, that a large number of institutions have collective bargaining agreements with the AAUP, which is obviously not a union.
4. Garbarino (1975: 61) reports that one-third of all organized institutions and one-half of the organized faculties are located in New York state. CUNY and SUNY alone account for almost 40 percent of all faculty included in bargaining units. He attributes this, in part, to that states' public employee bargaining statute and the generally favorable union climate within the state.
5. In 1972, the NLRB established a jurisdictional standard of control over any private institution with annual gross revenues greater than \$1 million.
6. Schramm (1975) attempts to account for the dearth of collectivization of private sector faculties, attributing their hesitance to such factors as (1) their stronger professional image, which may be

threatened by collective bargaining; (2) private institution faculty perceive themselves as having greater participation in the administration of higher education. Garbarino (1975: 72) concurs in the latter proposition.

7. The NEA and AFT were at one time affiliated in New York state in representing campuses of the CUNY and SUNY systems (see Ladd and Lipset, 1973: 56). AFT, however, has become sole representative at SUNY, ending that merger. Also, AAUP/NEA affiliates recently were chosen to represent the faculties at Kent State and the University of Northern Iowa.
8. For instance, CUNY institutions operate under a principle of pay parity between the community colleges and senior institutions in the system. Also, the very high cost of living in New York City could bias the results of any analysis in which data from New York City institutions were included.
9. Utilization of a matching procedure in order to obtain the sample of institutions presents some interesting methodological issues. Matching was necessary, of course, because of the small number of schools with unionized faculties. Random sampling of all four-year institutions would have been unlikely to result in more than one or two union selections. Furthermore, as most of the union faculties are located in the northeastern section of the United States, matching helped insure that other similarly-situated institutions could be included in the sample. Random sampling for nonunion schools would quite possibly include institutions not comparable with the union schools on many dimensions.

In effect, use of the matching procedure produces a quasi-experimental research design. Implications of the design are not fully explored in this research, as the quasi-experimental nature of the matched pairs is not directly employed except to compare compensation rates over the five-year period for paired institutions. When this is done, results show that 32 of the union faculties had greater salary and benefit increases than nonunion faculties.

10. Most of the other excluded institutions were quite small or of a very specialized nature such as Loretto Heights College (CO), Moore College of Art (PA), San Francisco University Law Faculty, and Detroit College of Business. All of the union schools in the analysis were certified as having an exclusive agent for the purpose of faculty collective bargaining as of 1974. Since it often takes as much as a year to negotiate the initial contract, it is quite likely that this negotiating period will, in itself, create an upward push on faculty salaries. Administrators, regents, or state legislators may attempt to ward off the move toward faculty collectivization or to minimize later union gains by awarding larger increases prior to the actual date of contract. Furthermore, many faculty salary and benefit increases are awarded retroactively. Therefore, those institutions were included which first bargained collectively in 1974. In order to test this assumption, however, those eight schools which were first collectively represented in 1974 were removed from the sample and another regression analysis was performed. Although the explanatory power of the union/nonunion variable increased by a slight amount, there was no significant change in the nature of the findings.

11. Luttbeg (1971) employed 118 political, economic, and policy variables to measure cultural similarity among the American states. His Q factor analysis aggregated the states by four categories: Industrial, Southern, Sparsely Populated, and Frontier. The extra-state matching procedure employed in the present study involved matching institutions located within states essentially congruent in terms of their highest factor loadings. Thus, for example, the New York and California state college and university systems were matched as each state loaded high in the Industrial category.
12. Southeastern Massachusetts University was organized in 1967. The other three faculties became collectivized in 1969. Because these four campuses were organized either just prior to or during the base period of the research, it is believed that they would not exercise a confounding influence on the findings.
13. To partially confirm the random effects of faculty rank, the total number of faculty members was added for each rank listed in the June, 1971 issue of the AAUP Bulletin (the first issue for which this breakdown was available) for the institutions included in the analysis.

Dividing by N, the following percentages were obtained:

	<u>Professor</u>	<u>Assoc. Prof.</u>	<u>Asst. Prof.</u>
Union	26%	29%	45%
Nonunion	28%	29%	43%

This division indicates that at the beginning of the analysis there were no essential differences by rank between union and nonunion schools. No such calculations were made for the later periods on grounds that if differences did appear by rank, this might be a legitimate effect of unionization.

14. Comparing the average faculty compensation for the 92 institutions in this study with the average compensation for all faculties with professorial ranks included in the AAUP Bulletin (1970 and 1975) produces the following results:

	<u>92 Institutions</u>	<u>All Institutions</u>
1969-70	\$13,042	\$13,974
1974-75	\$18,191	\$18,709
Percent Increase	39.7	33.9

The slightly lower averages for the group of schools in this analysis suggest primarily one thing--most of those institutions that were providing high faculty salaries and benefits (e.g., large prestigious universities) did not undergo collective bargaining during this period. Also, the CUNY system, which is unionized, has not been included in this study for the reasons given above.

15. This is to be expected, of course, because only four of the faculties were unionized during this initial time period. It would be illogical to believe that unionization could make a difference if it were, in effect, not present. Nonetheless, the insignificance of the union dummy at time one does provide some indication that the variable is measuring what it is intended to measure--the impact of unionization on faculty compensation. If the union/nonunion dummy showed even a moderate simple correlation coefficient for salaries and benefits, the validity of the measure would have been called into question.
16. The addition of any new variables to the regression equation is likely to increase the amount of unexplained variance (R^2). $\overline{R^2}$, which adjusts R^2 in accordance with the number of variables and number of cases in the equation, is more appropriate for assessing the incremental addition to explained variance accounted for by the addition of a new

independent variable. The formula is $\overline{R^2} \triangleq R^2 - \frac{k}{n-k-1} (1 - R^2)$, (Roa and Miller, 1971: 20-21). By adding the union/nonunion variable to the regression equations, the amount of explained variance for the 1974 average faculty compensation is increased by .059, or about six percent, and the explained variance for percent compensation increase 1969-70 to 1974-75 is enhanced by .136, or about 14 percent, as follows:

1970-75 Increase:	$\overline{R^2} = .159$ without union/nonunion
	$\overline{R^2} = .295$ with union/nonunion
1974-75 Av. Fac. Comp.:	$\overline{R^2} = .671$ without union/nonunion
	$\overline{R^2} = .730$ with union/nonunion

17. For example, using a diffusion innovation model with a lagged dependent variable on the right-hand side of the regression equation, Gray (1973) reports a series of R^2 ranging from .938 to .988 where 12 state laws representing innovation are subjected to analyses.
18. In general, faculty salaries at all institutions of higher education enjoyed real gains (in constant dollars) in the early and mid-1960's. The rate of change lessened from 1967 to 1969, and was negative, in real dollars, from 1969-1973 (see Freeman, 1975: 116).
19. Several factors work to keep faculty unionism at a relatively low level of increase including: (1) the absence of state enabling legislation; (2) the continued embrace of a "professional image" by many faculty; (3) the diverse characters and locations of the more than 2,800 American colleges and universities (see Schramm, 1976: 43-44; Garbarino, 1975: 20-29).
20. Widespread support for collective bargaining in the California institutions of higher education was revealed in 1969 and 1973 surveys.

Some major reasons for union sympathy were: (1) highly variable budgetary support from the governor and legislature; (2) issues of teacher loads and salary parity within the system; (3) threats to tenure; (4) the desire for better grievance procedures and increased fringe benefits (see Walker, 1974). So far, resistance from the Trustees and Chancellor and the absence of explicit state enabling legislation have been effective in holding off unionism in the largest system of higher education in the United States.

21. Faculty unions, with the exception of the AAUP, have generally opposed merit increases, preferring the criterion of seniority (see Ladd and Lipset, 1973: 69-70). Two of the few contracts which have provided for merit increases are those which were negotiated at CUNY and SUNY. The CUNY situation is especially interesting, in that the contract provides for a modified "star" system where 50 "Distinguished Professors" receive higher salaries, lighter teaching loads, and other special support (see Ladd and Lipset, 1973: 97).

APPENDIX

The Sample of Matched Pairs

<u>Union</u>	<u>Non-Union</u>
Regis College	Portland State University
University of Bridgeport	University of Hartford
University of Delaware	University of Maryland
University of Hawaii	University of Nevada
Kansas State College (Pittsburg)	Fort Hays Kansas State College
Towson State College	Morgan State College
Boston State College	Chicago State College
Fitchburg State College	Framingham State College
Lowell State College	Lowell Technical Institute
North Adams State College	Western Washington State College
Southeastern Mass. Tech. Institute	Western Connecticut State College
Salem State University	Bridgewater State College
Westfield State University	Eastern Washington State College
Worcester State University	Central Washington State College
Central Michigan State University	Illinois State University
Eastern Michigan State University	Western Illinois University
Oakland University	Eastern Illinois University
Wayne State University	Ohio State University
Kearney State University	Eastern Montana College
New England College	William Penn College
Rider College	Drew University
Rutgers University	University of Connecticut
Monmouth College	Fairfield University
Trenton State University	Central Connecticut State College
Wagner College	Manhattanville College
Cooper Union	Manhattan College
Long Island University	Iona College
Pratt Institute	Union College
Mercy College	Marist College
Adelphi University	Rochester University
Bard College	Hartwick College
Hofstra University	Pace College
New York Institute of Technology	Canisius College
St. John's University	Loyola University (Chicago)
Jamestown College	Dakota Wesleyan University
Ashland College	Hiram College
Cincinnati University	Akron University
Lincoln University	Marietta College
Temple University	University of Pittsburg
Millersville State College	Eastern Connecticut State College
University of Rhode Island	University of Massachusetts
Rhode Island College	Southern Connecticut State College
Johnson State College	Northern Montana College
State University of N.Y. (category I)	University of California (category I)
State University of N.Y. (Arts & Sciences)	California State Colleges
Polytechnic Institute of Brooklyn	Stevens Institute

CHAPTER 4

THE IMPACT OF UNIONIZATION ON STATE EMPLOYEE COMPENSATION

Responding to the dual pressures of inflation and recession, state government spending has expanded at an unprecedented rate in recent years. A large part of this growth in expenditures has been forced upon the states, it is sometimes alleged, by public employee unionism. While the fact goes unchallenged that employee compensation constitutes by far the single largest expenditure in state government operating budgets, empirical research regarding the impact of collective bargaining on state government employee salaries and benefits is scarce. Published research findings concerned with the issue are non-existent. The purpose of this chapter is to help alleviate the research lacuna in this vital area through the application of a model of state employee compensation determination. As in the previous chapter, multivariate analysis will be employed in order to isolate the impact of collective bargaining on public employee compensation.

Background

In Chapter One, the rise of unions in state and local government employment over the past 15 years was described in some detail. It was noted that the growth period in public employee unionism began after the issuance of Executive Order 10988 by President Kennedy in 1962. Once bargaining rights had been established for federal workers,

individual states began the process of enacting legislation governing public employee unionism at the state and local levels.

The American states occupy a pivotal position in public employee labor relations, as they serve both as major public employers and as the primary source of rules and procedures governing the relations between public unions, state and local governmental units, and the general public. Whereas the state's legislative initiatives regarding public employee unions came partly in response to the federal impetus of 1962, increased state government employee activism during the late 1960's also played an important role in encouraging positive state reaction. Over the 25 year period from 1942 to 1967 there were only 42 work stoppages in state government. During the next two years alone, that figure was surpassed quite dramatically by the occurrence of 53 strikes by state government employees (see U.S. Bureau of Labor Statistics, 1972: 3).¹ Unionization was the handmaiden of this political activism--by October 1975, almost 40 percent of all full-time state government workers belonged to an employee organization, ranging from a high of 89.7 percent in Hawaii to a low of 0.6 percent in Florida (U.S. Department of Labor, 1976: Table 2). State Highways employees were particularly energetic in organizational activity, evidencing a 59 percent membership figure for all states, while state education employees showed the least degree of organization, 28.6 percent (U.S. Department of Labor, 1976: 1).

Although Wisconsin passed the first comprehensive legislation concerning public employee collective bargaining in 1959, the statute did not cover state employees until it was amended in 1966. Other states soon followed; by the end of 1976, 33 states had acted to grant

their employees some form of bargaining rights, either through statutes, court orders, or executive orders (U.S. Department of Labor, 1976). Only four states legally prohibit collective bargaining for state employees: Utah, Texas, Tennessee, and North Carolina. When bargaining is neither officially permitted nor prohibited, federal constitutional protection of the right of association has been relied upon by state courts in protecting union activity. However, "the legal propriety of a public employer to engage in collective bargaining with a union in the absence of a statute has continued to be a matter of debate, despite the general acceptance of such relationships ... and the general presence of de facto arrangements where no statutory system exists" (Council of State Governments, 1975: 6).

State legislation which does exist with regard to collective bargaining by state workers basically can be divided into two categories--the meet and confer approach and the mandatory bargaining approach.² The major distinction between the two is that under the former option the employer retains final authority in all decision-making, while under the latter approach decisions on various issues are decided bilaterally. "In practice, however, there is little actual difference between the collective bargaining and 'meet and confer' arrangements ... Both approaches normally end in a binding contract or agreement." (Public Affairs Research Council, 1975: 10).

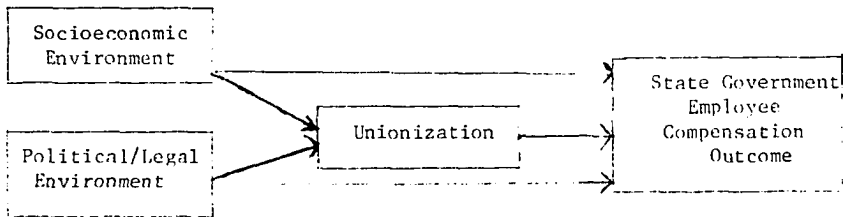
The organizations which represent state government employees vary from state employee associations, such as the Hawaii Government Employees Association, to full-fledged unions such as the AFSCME. Most state associations are loosely affiliated with the Assembly of Government Employees (AGE). In the analysis which follows, associations and

unions will be treated alike in the way they represent their members in state government labor relations. As with faculty unions, it will be assumed that all act similarly when seated at the bargaining table.

The Impact of Collective Bargaining on State

Employee Compensation: A Model

The model of public employee wage determination which will be applied to state government workers will approximate more closely the general model of Chapter Two than did the research on faculty collective bargaining. Again, the major purpose of the model is to help isolate the impact of unionization on public employee compensation outcome. The model is specified as follows:



1. The terminal element in the model, state government employee compensation outcome, is estimated using the 50 states as units of analysis. Seven dependent variables are employed. First, average overall state employee salaries were calculated for October, 1974³ by dividing total state government payrolls by full-time equivalent employment. Then, monthly salaries were computed similarly for state employees in four functional categories: highways, public welfare, hospitals, and police.⁴ These functional areas

were included in an effort to discover if the same influences are operative in determining salaries within different occupational categories, and also to assist interpretation and analysis of the aggregate state data. Since it is important to consider the influence of collective bargaining on nonwage compensation as well as salaries, one of the most substantial fringe benefits of government employment--state contributions to employee retirement systems--was allocated on a monthly basis and included as the sixth dependent variable. The final variable, average monthly salary plus retirement, was determined by adding monthly per employee retirement contributions by state governments with the previously obtained monthly salary figures.

II. Factors within the socioeconomic environment include:

- A. Nature of the state labor force, measured by the percentage of adult state residents possessing a high school degree in 1970.
- B. Cost-of-living, approximated through 1972 state per capita personal income.
- C. Ability to pay of the state government, measured by 1972 per capita state revenues from all sources.

All three of the socioeconomic factors listed above are expected to vary positively with state employee salary and retirement benefits, with a highly-educated work force, high cost-of-living, and large per capita state revenues associated positively with the amount of compensation states award to their employees.

The two remaining socioeconomic factors in the general model are not directly included in this particular study. Since the comparative wage standards/opportunity wage variable would be quite difficult to operationalize satisfactorily at the state level, and the cost-of-living measure already included in the model has been found in previous research to correlate highly with proxies for the opportunity wage, it was decided not to proceed further with this factor. The other missing socioeconomic element is population level/population density. This variable was dropped from the analysis because of problems of multicollinearity ($r = .68$ with per capita personal income) and its nonessential theoretical position in a study using statewide data.

III. Factors within the political/legal environment of the states include:

- A. The legal structure of collective bargaining, as embodied in the existence of state public sector labor relations policies which permit collective bargaining by state employees. This was operationalized through a dummy variable coded in accordance with the prevailing state statutes, court orders, or attorney general opinions at the beginning of 1974.
- B. State government political environment, measured by the state rankings on legislative capability/professionalism developed under the auspices of the Citizens Conference on State Legislatures. The ordinal level ratings are based on the combined performance of the state legislatures in five categories: functional, accountable, informed, independent, and representative.

C. Union political power within the respective states is accounted for through the percentage of union membership in state nonagricultural employment, 1972.

The union political power variable is expected to be positively related to state employee compensation. The presence of a labor relations policy expressly permitting collective bargaining for state employees also is anticipated to vary directly with the amount of salaries and benefits. Finally, it is expected that the more "capable" state legislatures will pay state workers relatively less than those legislatures ranking lower on the scale. This latter hypothesis requires further elaboration.

Ultimately, expenditure decisions on state employee compensation reside with these legislative bodies. The legislature establishes the statutory framework for collective bargaining, monitors the bargaining process, and exercises final approval over the outcome. It is also the target of "end-runs" by employee representatives and unions who may attempt to gain on a direct, political level what has been denied at the agency office or at the bargaining table. Many employee organizations prefer to deal directly with the legislative body because of their potential political influence (Public Affairs Research Council, 1975: 13).

It would seem that the more capable, professionalized legislatures would have the resources and expertise to resist end-runs⁵ and confine their role in the bargaining process to one of appropriate oversight on the issue of state employee salary and benefits, thereby withstanding requests for unwarranted increases. Perry (1976: 261) concurs in this viewpoint, asserting that "The general effect of

legislative professionalism is to encourage 'hard' bargaining and reduce the likelihood of compromises that might be viewed as favoring employee groups" Thus, it is expected that those states ranked in the upper-tier in legislative capability/professionalism will award lower compensation in the presence of organized employee activity than lower-ranked states.

The only other political/legal environment factor specified in the general model of public sector wage determination which is not included in the state government employee model is geographical location. Although this variable is undoubtedly of importance in its influence on public employee compensation, it is highly correlated with three of the other independent variables in the model ($r = .73$ for education; $r = .61$ for per capita personal income; $r = .58$ for labor relations policy). It is believed that these three measures will at least partly account for the influence of geography.

IV. Two unionization measures originally were employed in the analysis: a union/nonunion dummy, and the percent of state government workers belonging to an employee organization in October, 1974. Regression results using the two variables were quite similar, as the general statistical relationships remained approximately the same and total explained variance was almost identical. The findings which are reported later in this chapter are predicated almost exclusively on the percent unionization measure.⁶ It was anticipated that the extent of unionization would vary positively with state employee compensation.

Before turning to the results of the multivariate analysis, it might prove instructive to construct a union/nonunion dichotomy of the American states in order to examine the overt differences in employee salary and benefits. Table 15 pictures the 1974 differentials for the 15 states in which at least 50 percent of the state employees belong to an employee organization and the 35 states in which less than 50 percent are organized. From Table 15, it is apparent that the October 1974 average salary is about \$186, or 25 percent, higher for employees in the highly organized states. Furthermore, these workers enjoy an average advantage in monthly state contributions for employee retirement benefits of over \$33, a difference of almost 49 percent. Together, the employees of unionized states receive over \$219 more per month in salary and retirement benefits than those who work for less unionized states. Measured in this way, it would seem that unions do, in fact, result in higher compensation for their members in state government employment than what is obtained under nonunion conditions.

However, as in the earlier case of faculty members, many forces may affect the compensation of state government employees. Perhaps, for example, those "union" states just happen also to be the wealthier states with more highly-trained work forces than the "nonunion" states. If this is true, then one should expect that employee salary and benefits ordinarily would be higher in these states regardless of the presence or absence of collective bargaining. What, then, is the impact of unionism?

In order to account for as much variation as possible in monthly state government employee compensation while isolating any specific

TABLE 15. AVERAGE MONTHLY COMPENSATION FOR STATE
EMPLOYEES IN UNION AND NONUNION STATES, 1974*

	Union	Nonunion	Differ- ence	% Difference
Oct. 1974 average monthly salary	\$ 930.87	\$744.60	\$186.27	25.0
1974 average monthly state con- tribution for employee retirement benefits	\$ 102.46	\$ 68.82	\$ 33.64	48.9
Total	\$1033.33	\$813.42	\$219.91	27.0
	N = 15	N = 35**		

*Union states are those in which 50 percent or more of the state workforce is unionized.

**N = 34 for nonunion retirement contributions due to missing data.

Source: U.S. Department of Labor (1976), Labor-Management Relations in State and Local Governments: 1974. Washington, D.C.: Government Printing Office; U.S. Department of Commerce (1975), Public Employment in 1974. Washington, D.C.: Government Printing Office.

impact of unionization, multiple regression analysis was employed using the data and variables described earlier in this section.

Findings

Before considering the multiple regression results, it is helpful to examine certain zero-order relationships among some of the measures employed in the analysis. Table 16 displays the simple correlation coefficients along with means and standard deviations for all variables.

One might first note that average monthly overall state employee salary is closely associated with salaries in the functional employment categories, although public welfare and state police salaries vary somewhat less strongly with the overall salary variable. This could indicate that different forces operate to determine salaries within these two categories. It seems rather surprising that the relationships between the five state salary dependent variables and the state retirement contributions variable are not any stronger than indicated in the correlation matrix ($r = .33, .21, .36, .47, .23$). Apparently the forces that determine the magnitude of state retirement contributions and state salaries are not as similar as one might expect, especially with regard to highways and police.

Six of the dependent variables are highly correlated with state per capita personal income ($r = .74, .68, .58, .68, .73, .75$). The notable exception is state retirement contributions which is more strongly associated with percent union membership in nonagricultural employment ($r = .44$). However, more significant for the purposes of the present analysis is the relatively high positive correlation between

TABLE 16. MEANS, STANDARD DEVIATIONS, AND CORRELATION COEFFICIENTS FOR ALL VARIABLES

		\bar{X}	S.D.	Y_1	Y_2	Y_3	Y_4	Y_5	Y_6	Y_7	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}
Y_1	State Salary	821	122	-																	
Y_2	Highways Salary	862	150	.90	-																
Y_3	Pub. Wel. Salary	783	118	.82	.71	-															
Y_4	Hospitals Salary	699	129	.90	.72	.78	-														
Y_5	Police Salary	.971	160	.80	.64	.66	.74	-													
Y_6	State Retire. Contrib.	974	616	.33	.21	.36	.47	.23	-												
Y_7	Salary & Retirement	902	147	.94	.82	.80	.91	.74	.62	-											
X_1	% State Emp. in Org.	37	22.4	.72	.62	.56	.69	.66	.30	.70	-										
X_2	% Housing Emp. in Org.	57	28.7	.67	.64	.50	.59	.51	.16	.61	.78	-									
X_3	% Pub. Wel. Emp. in Org.	47	31.7	.53	.49	.45	.50	.45	.26	.53	.79	.58	-								
X_4	% Hospitals Emp. in Org.	46	28.1	.63	.54	.47	.62	.52	.29	.63	.88	.73	.64	-							
X_5	% Police Emp. in Org.	39	35.6	.56	.54	.54	.49	.58	.24	.55	.58	.53	.52	.50	-						
X_6	Type Labor Rel. Policy	0.5	0.5	.46	.46	.30	.45	.52	.14	.43	.57	.46	.33	.56	.35	-					
X_7	Per Capita Per. Income	4235	594	.74	.68	.58	.68	.73	.40	.75	.57	.49	.42	.47	.46	.44	-				
X_8	% Union Mem. Nonag. Emp.	23	8.9	.48	.44	.42	.52	.44	.44	.55	.49	.32	.40	.39	.32	.44	.56	-			
X_9	Legis. Capability	25	15	-.51	-.52	-.43	-.42	-.38	-.12	-.47	-.21	-.24	-.04	-.16	-.21	-.26	-.43	-.40	-		
X_{10}	Per Capita State Rev.	504	149	.52	.48	.32	.34	.56	-.04	.42	.52	.42	.41	.50	.37	.27	.32	.20	-.21	-	
X_{11}	% H.S. Degree	53	8.1	.60	.72	.41	.37	.45	-.12	.45	.46	.59	.35	.42	.44	.38	.56	.27	-.46	.42	-

Sources: Bureau of the Census (1975a) Y_1 - Y_7 ; Bureau of the Census (1975b) Y_6 - Y_7 ; Department of Labor (1976b) X_1 - X_6 ; Bureau of the Census (1973) X_7 ; Bureau of the Census (1974) X_8 , X_{10} , X_{11} ; The Citizens Conference on State Legislatures (1971) X_9 .

the compensation variables and the measures representing percentages of various categories of state employees in organizations ($r = .72$ for all state employees; $.64$ for highways; $.45$ for public welfare; $.62$ for hospitals; $.58$ for police; $.70$ for the combination salary/retirement variable). In most cases these represent the strongest simple r 's in the matrix. Once again, however, the retirement variable exhibits markedly diverse characteristics.

Other independent variables also show potentially significant relationships with the compensation measures. The education measure and legislative capability are highly correlated with overall state salary ($r = .60$, $r = -.51$) and highways salary ($r = .72$, $-.52$). Per capita state revenue is most closely associated with state salary ($r = .52$) and police salary ($r = .56$). The nonagricultural union membership measure shows a relatively strong relationship with hospital salary ($r = .52$) and the combined salary/retirement variable ($r = .55$).

Labor relations policy is most closely related to police salary ($r = .52$). State retirement contributions appear to be influenced by only two independent variables: per capita personal income ($r = .40$) and nonagricultural union membership ($r = .44$).

In examining the matrix for possible multicollinearity within the realm of the independent variables, one discovers only a few potential difficulties. Some evidence of possible covariance lies in the association between the measures of percentage of employees belonging to an organization and the other independent variables, which range as high as $r = .59$. Per capita personal income also presents potential problems owing to its moderately high simple correlations with nonagricultural union membership ($r = .56$) and percentage of high school degrees ($r = .56$).

Nonetheless, possible multicollinearity is not of such magnitude that one should be unduly concerned. The primary purpose of this investigation is to uncover the impact that unionization exercises on the compensation of state employees when other salient factors also are taken into consideration. The best way to accomplish this goal is to examine the seven multiple regression equations.

When the salary and compensation variables are regressed on the seven independent variables for the 50 states, a fairly high level of explained variance is achieved for all but two equations (see Table 17). The largest multiple correlation coefficient is found in the overall state salary equation ($R^2 = .76$), and the lowest are for the public welfare salary ($R^2 = .45$) and retirement ($R^2 = .42$) equations. It would appear that the model is a reasonably good predictor of state government employee compensation.

All of the independent variables attain statistical significance⁷ in at least one equation, with the exception of percentage of union members in nonagricultural employment. As would be expected from the examination of the correlation matrix, the most consistently important predictors of state employee compensation are the unionization and per capita personal income measures.

The prominence of per capita personal income reflects the importance of cost-of-living and, to a lesser extent, opportunity wage in determining the amount of salary and benefits paid by state governments to their workers. This variable achieves statistical significance at the .05 level in all equations, with beta values varying from $\beta = .26$ (Highways) to $\beta = .53$ (Police). It serves as the most powerful predictor of public welfare, hospitals, and police salaries and overall salary/retirement.

TABLE 17. PARTIAL REGRESSION COEFFICIENTS AND T-RATIOS
FOR STATE EMPLOYEE COMPENSATION, 1974

	State Salary			Highways Salary			Pub. Wel. Salary			Hospital Salary		
	b	β	t-ratio*	b	β	t-ratio*	b	β	t-ratio*	b	β	t-ratio*
% State Emp. in Org.	2.20	.40	3.41									
% Highways Emp. in Org.				1.18	.23	1.98						
% Pub. Wel. Emp. in Org.							1.06	.28	1.97			
% Hospital Emp. in Org.										1.98	.43	3.27
Per Capita Pers. Inc.	.08	.37	3.31	.06	.26	2.13	.07	.34	2.05	.10	.46	3.40
% Union Mem. Non-Ag.	-.67	-.05	.49	.56	.03	.30	.16	.01	.08	1.04	.07	.59
Legis. Capability	-1.96	-.23	2.51	-1.72	-.17	1.66	-2.23	-.27	1.90	-1.82	-.21	1.81
Per Capita State Rev.	.11	.13	1.41	.12	.12	1.30	.04	.05	.35	-.01	-.01	.06
% H.S. Degree	1.06	.07	.68	5.40	.29	2.38	-.26	-.02	.11	-2.89	-.18	1.43
Type Labor Rel. Policy	-9.50	-.04	.40	12.35	.04	.41	-5.02	-.02	.16	-1.38	.00	.04
R^2		.76			.71			.45			.63	
F-Ratio		18.5			14.5			4.9			10.4	
Standard Error		65.3			87.5			94.9			84.2	

* T-Ratio of 2.01 would be significant at the .05 level (two-tailed test)

TABLE 17(cont.) PARTIAL REGRESSION COEFFICIENTS AND T-RATIOS
FOR STATE EMPLOYEE COMPENSATION, 1974

	Police Salary			Retirement			Salary/Retirement		
	b	β	t-ratio*	b	β	t-ratio*	b	β	t-ratio*
% State Emp. in Org.				8.10	.29	1.63	2.87	.44	3.45
% Police Emp. in Org.	1.06	.24	2.43						
Per Capita Pers. Inc.	.14	.53	4.57	.46	.44	2.57	.11	.46	3.84
% Union Mem. Non-Ag.	-1.26	-.07	.67	16.23	.24	1.51	.67	.04	.38
Legis. Capability	-1.06	-.10	1.00	-2.80	-.07	.46	-2.20	-.22	2.17
Per Capita State Rev.	.35	.33	3.59	-.66	-.16	1.12	.05	.05	.53
% H.S. Degree	-3.76	-.19	1.71	-37.29	-.49	3.07	-2.04	-.11	1.00
Type Labor Rel. Policy	63.28	.20	2.08	-140.98	-.12	.77	-21.19	-.07	.70
R^2		.73			.42			.72	
F-Ratio		16.3			4.45			15.4	
Standard Error		90.0			504.7			84.4	

*T-Ratio of 2.01 would be significant at the .05 level (two-tailed test).

Other independent variables (except for percent of state employees in organizations) do not evidence such consistent relationships. Rather, the factors are of diverse consequence depending on the functional category serving as dependent variable. For instance, state labor relations policy and per capita state revenues are of substantial importance only in determining police salary ($\beta = .20, .33$), and the education variable reaches statistical significance only in the cases of highways ($\beta = .29$) and retirement contributions ($\beta = -.49$)

The only instance of an independent variable deviating in a uniform fashion from its hypothesized relationship with employee compensation involves the measure of legislative capability/professionalism. It was expected that the more "capable" state legislatures would have the resources and expertise to counteract requests for unwarranted compensation increases and to avoid adverse consequences of the legislative "end-run". Thus, it was anticipated that legislatures ranking high in capability and professionalism would, other things being equal, pay their workers less than their lower-ranking counterparts even in the presence of unions. However, the negative standardized regression coefficients found in Table 17 point to the opposite conclusion: that legislative capability and employee compensation are positively associated.⁸ It would seem that the more "capable" a legislature is, when measured by a comprehensive index, the higher the salary and benefits it awards state employees. Perhaps this finding is related to the broader issue of professionalism, with "professional" legislatures perceiving their state bureaucracies to be professionalized and therefore deserving of high compensation.

The model of state employee compensation determination may also be criticized on the basis of the relatively low amounts of explained

variance achieved in the public welfare salary and retirement contributions ($R^2 = .45, .42$). The reason for the modest multiple correlation coefficient in the former instance may be attributed, in part, to the nature of the work function performed by public welfare employees. This category of state workers is composed predominantly of white-collar, professional welfare assistance case workers. As Hammermesh (1971) has shown, white-collar and blue-collar workers operate in accordance with different work aims and respond to diverse occupational stimuli. Perhaps compensation increases are not as important to welfare employees as other job-related goals.

Turning to the state retirement system contributions equation, it is apparent that different forces account for the variation in this dependent variables when it is compared with the others. Although per capita personal income is salient, the most important predictor of retirement contributions is the proxy for nature of the state labor force. From the direction of the partial regression coefficient ($\beta = -.49$), it appears that states with less-educated work forces contribute more generously to their employees' retirement funds than other states. The reason for this phenomenon is not readily forthcoming. Also, for similarly obscure reasons, percent union membership in nonagricultural employment achieves its strongest partial coefficient in this equation ($\beta = .24$). Perhaps these enigmas partly owe their existence to the fact that many states have statewide retirement systems equally applicable to all state workers (Public Affairs Research Council, 1975: 17). Thus, all employees, regardless of the nature of their jobs, would receive the same retirement contributions.

Despite the incongruities and inconsistencies outlined above, the overwhelming preponderance of observed relationships are in the hypothesized direction and sufficiently constant to uphold the overall validity of the model. Furthermore, of singular import from the vantage

point of this analysis is the unionization measure, percent of state employees belonging to an employee organization. This variable shows statistically significant associations with state employee salary and retirement benefits in all but three equations.

Percent unionization displays statistically significant standardized partial regression coefficients for overall state salary ($\beta = .40$), hospital salary ($\beta = .43$), police salary ($\beta = .24$), and salary/retirement ($\beta = .44$). Even in the three instances where the union variable is not significant at the .05 level,⁹ it continues to exert a moderately strong positive impact on the respective dependent variables ($\beta = .29, .28, .23$). Clearly, unionism is associated with increased salary and benefits for state government employees.

Just how much does employee organization mean in dollars and cents to the average state employee? The dollar benefit can be determined by examining the unstandardized regression coefficient for the percentage of employees belonging to organizations with the dependent variable salary/retirement contributions. The b value of 2.87 indicates that for every one percent increase in organizational membership, a corresponding increase of \$2.87 in combined monthly salary and benefits should result. On a yearly basis the one percent union membership advantage will become \$34.44.

Another way of assessing the dollar advantage of unionization is to replace the percent union variable with a 0/1 dummy (union/nonunion) in the same equation, dichotomized on the basis of organizational membership above or below 50 percent. When this is done, the general statistical relationships remain approximately the same, and total explained variance is quite comparable to that obtained previously. An

examination of the union dummy reveals that, all other variables considered, a state government employee in a "union" state could expect \$109.80 more in monthly salary and retirement benefits than his counterpart in a "nonunion" state. This results in a \$1317.60 advantage over a 12-month period--about 13 percent when compared to the annualized mean compensation figure for nonunion state employees which can be derived from Table 15.

Conclusion

The model of state government employee compensation determination held up well under testing, explaining 72 percent of the total variance in salary and retirement benefits in a multivariate analysis. The model also was a reasonably good predictor of monthly salary for state employees in all occupational categories and in the more limited police, highways, and hospital functions. Less success was realized for employees' salary in the public welfare function and for the state retirement contributions variable.

It is evident from the high beta weights found for the socioeconomic measures in the various regression equations that a state's socioeconomic environment is quite important in determining the compensation of state workers. Nature of the labor force, cost-of-living, and ability to pay all were found to influence state employee compensation, although the labor force variable sometimes showed the opposite relationship with the dependent variables from what was hypothesized in the model. Factors within a state's political/legal environment also were determined to be of considerable importance in their effect on employee compensation. Although the union political power surrogate--

percent union membership in nonagricultural employment--did not attain statistical significance in any of the equations (casting doubt on the existence of a union "threat effect"), the proxies for state legal structure and political environment showed fairly strong associations with the dependent variables. The labor relations policy of a state was of particular consequence in determining police salaries. The legislative capability/professionalism measure evidenced substantial standardized partial regression coefficients in almost all of the salary equations, although in the opposite direction from what had been expected. It therefore appears likely that state employees are able to win relatively higher salary and retirement benefits in those states with more capable/professional legislative bodies.

As anticipated, the unionization variable--percent of workers belonging to an employee organization--was one of the most important predictors of the level of state employee salary and benefits. The union measure achieved statistical significance in four of the equations and showed fairly high standardized partial regression coefficients in the other three. Multiple regression analysis reveals that where state employees are organized, increased salaries and retirement benefits should result in a dollar advantage of \$1,317.60 per year, or about 13 percent more than their counterparts in nonunion states.

These compensation figures present a somewhat different picture from what the simple comparison of union and nonunion state employee salary and benefits (Table 15) showed before the multivariate analysis was performed. In fact, when elements of a state's socioeconomic and political/legal environments are accounted for, the apparent compensation advantage of union state workers is halved.

Still, the compensation advantage which appears to accrue to state employees who join an employee organization is of no small consequence to those states which are suffering a fiscal crisis. As the unionization of public employees spreads across the states (which it is almost certain to do) increased pressure will be applied by employee groups on the executive and legislative branches of government in order to gain larger salaries and benefits. And in the short run at least, increasing unionization should exert an upward push on levels of state employee compensation. It is therefore quite likely that a growing proportion of state operating budgets will be devoted to paying employee salaries and benefits. As approximately three-fourths of the typical state budget is already swallowed up by expenditures for employee compensation, the implications of large collective bargaining settlements should be obvious.

As mentioned in the chapter on faculty collective bargaining, these pressures, while certain to be with us during the remainder of this decade, may operate only in the short-term, relatively speaking. For as the process of collective bargaining in the public sector becomes more rationalized and its direct participants more experienced, one should expect that the initial, powerful influences of unions on compensation settlements will begin to taper off (see Foran, 1973). In this regard, the era of labor peace and relative cooperation that has generally existed in the private sector in recent decades will most likely be duplicated in the public sector, after this initial period of rapid growth in public employee unionism subsides. Now, this study will turn to an examination of public employee union influence on compensation at the municipal level.

NOTES

1. Since 1969, the yearly number of strikes by state government employees has levelled off, fluctuating from 23 to 40. State government workers generally have lagged behind other public and private sector employees in all measures of strike activity (see Perry, 1976: 257-262). The massive 1975 strike in Pennsylvania would seem to provide an exception to the normal reticence of state government workers to engage in large job actions. In this instance, about 55,000 AFSCME and SEIU-represented employees went out on strike over the amount of future pay increases (see Sharp, 1976: 263-267).
2. For a comparative examination of the nature and scope of employee coverage in each state, see Chauhan (1976: 19-30).
3. A similar analysis was undertaken using October 1972 data. The results were nearly identical to those reported for October 1974.
4. Highways includes state workers involved with the provision, maintenance, and repair of streets, roads, and highway facilities; public welfare covers those employees who participate in the administration of various assistance programs; hospitals includes employees of government-operated inpatient health care facilities; police involves all persons engaged in state law enforcement operations (see U.S. Department of Labor, 1976: 130).

5. A 1974 Oregon statute takes a unique approach in discouraging the legislative end-run. The law makes it an unfair labor practice for the exclusive employee representative to "communicate directly or indirectly during the period of negotiation with officials other than those designated to represent the employer regarding employment relations". (Council of State Governments, 1976: 15).
6. The use of percentage of employees belonging to a union or employee organization as a variable measuring union influence on wages has been criticized by some economists (see Lewis, 1963: Ch. 2). As a substitute in private sector analyses, an arbitrary decision is sometimes made whereby a firm in which over half of the employees belong to a union is considered "union" and firms in which less than half of the production workers belong to a union are labelled "nonunion" in order to construct a dummy variable. This latter technique sacrifices interval level data and seems to be rather subjective in nature. For example, is firm A, with 49 percent of its employees belonging to a union any less of a "union" firm than firm B, in which 51 percent of the employees are organized? Recently, however, Ehrenberg and Goldstein (1975) have shown that the percentage of the organized work force and collective bargaining dummy variable appear to measure the same phenomenon.
7. Since the universe of states is included in the analysis, tests of significance are not truly applicable. However, it is rather common to use significance tests in this type of research in order to provide an indication of relationships that are "sizable".

8. The negative relationship reported in the tables reflects the rankings of states on legislative capability. Thus, those states ranking highest are assigned ordinal values, so that the lower the assigned value, the higher the degree of legislative capability.
9. See footnote 7, above.

CHAPTER FIVE

THE IMPACT OF COLLECTIVE BARGAINING ON THE COMPENSATION OF POLICEMEN

Like some state governments and institutions of higher education, many American cities currently are in the throes of a fiscal crisis. Diverse forces have contributed to the adverse financial conditions prevailing in these municipalities, including (1) the need for new and expanded services to meet the rising demands of citizens; (2) the requirement for the modernization of city physical facilities; (3) the erosion of the local tax base as a result of suburban flight by affluent workers and some industries; and (4) the severe economic conditions issuing from inflation and recession in the wider economy. It has been difficult for many cities to cope with these forces, as they seem to be beyond the control of local government officials. For example, the revenue-raising capacity of municipalities is rather inflexible, as a large proportion of the income of most cities is tied to property taxes and earmarked federal and state grants-in-aid (Spero and Capozzola, 1973: 216-17). As a result, municipal revenues generally do not increase nearly as rapidly as rising demands for expenditures.

As in the cases of higher education and state government, a large percentage of the funds spent by municipal governments is dedicated to personnel costs. From Table 18, the tremendous increase in municipal

TABLE 18. MONTHLY EMPLOYMENT AND PAYROLLS
OF MUNICIPAL GOVERNMENTS, 1952 TO 1975

Year	Municipal Employment (FTE) (Thousands)	Municipal Payroll (Total) (Millions)
1952	1,175	345
1953	1,200	368
1954	1,234	396
1955	1,252	414
1956	1,292	450
1957	1,297	461
1958	1,372	511
1959	1,406	548
1960	1,447	583
1961	1,491	630
1962	1,486	662
1963	1,549	708
1964	1,584	760
1965	1,638	818
1966	1,701	892
1967	1,715	972
1968	1,813	1097
1969	1,858	1196
1970	1,922	1361
1971	1,960	1482
1972	2,029	1654
1973	2,109	1855
1974	2,127	1985
1975	2,158	2150
% Increase 1952-75	84%	523%

Source: U.S. Bureau of the Census (1976) Public Employment in 1975
Washington, D.C.: Government Printing Office.

payroll expenditures can be compared with the rise in municipal employment from 1952 to 1975. As one can see, payroll costs have risen faster than the increase in municipal employment would seem to justify. While the total full-time equivalent employment over the 24-year period has increased 84 percent, municipal payrolls have risen by 523 percent.

Much of the ostensible gain in payroll expenditures undoubtedly would be reduced if the figures were adjusted in terms of real (1975) dollars. It is also apparent, however, that inflation alone cannot account for all of the rising differential. Some observers have alleged that municipal unions may be responsible for rising payroll expenses, at least since the late 1960's. According to Spero and Capozzola (1973: 220):

The influence of unions, whether utilizing formal or informal bargaining or relying on the older forms of political operation, drives wages up faster and higher than they would rise if left to the normal pressures of supply and demand and other factors determining the labor market. Elements other than collective bargaining have played a role in the setting of municipal salaries and wages. Collective bargaining has, however, created a different configuration than would otherwise have developed.

Recent evidence would seem to support this assertion. Before the decade of the 1960's, public employee unionism was a negligible factor in the personnel costs of American cities, primarily because few workers were represented by organizations, either formally or informally, in negotiations concerning salaries and benefits. Within the past 15 years, however, collective representation has become commonplace in municipalities throughout the United States. In October 1975, almost 54 percent of all local government employees belonged to a union or association (U.S. Bureau of the Census, 1977). In cities of 10,000 population and above, 60 percent of the public workers were members of employee organizations;

the figure approached 100 percent in large municipalities such as New York,¹ Cleveland, and Detroit.²

Zagoria (1972: 2) has stated that the labor contracts negotiated by those organizations that engage in formal collective bargaining have, indeed, resulted in increased personnel costs and a marked shift away from capital expenditures to operating budgets. This does appear to have been the case in the three large cities mentioned above, all of which have negotiated costly labor agreements that precipitated large operating budget deficits (Maier, 1971: 58). If such has happened elsewhere, then one might be convinced of the validity of the Wellington and Winter thesis that extensive municipal unionization has led to excessive union political power. According to Wellington and Winter (1971: 169), "the very unionization of public employees creates a powerful interest group, at least in large urban centers, that seems able to compete very well with other groups in the political decision-making process" Public employee unions "serve as lobbying agents, wielding political power quite disproportionate to the size of their membership."

In this chapter the analysis concerning the impact of collective bargaining on public employee compensation will turn to the municipal arena. The subject of the investigation to follow will be one particular occupational group--police service employees.

Police Employee Unionism

Municipal policemen are the second most highly-organized of all local government employees, with over 50 percent of their ranks belonging to employee organizations as of October, 1975 (U.S. Bureau of the Census, 1977: 2).³ During the same year, it has been reported that local police departments received the largest municipal government outlay of all

urban functions (\$4.7 billion)--a sum almost 200 percent higher than what was spent on the police function 10 years earlier (Workers World, December 12, 1975). Since about 85 percent of the typical police budget is devoted to salaries and fringe benefits (Mandish and Frankel, 1976: 1), it would appear that police employees themselves have been the recipients of a substantial proportion of these funds.

The situation has not always been so favorable for municipal police employees, as historically they have suffered from low pay and benefits, long hours, and hazardous working conditions. In partial consequence of these factors, police were among the earliest municipal workers to form organizations. Most big city departments had active police organizations by the turn of this century, many of which have endured to the present time (Juris and Feuille, 1973: 15).

By 1919, wages and working conditions became matters of major concern to many of these organizations. During that year the American Federation of Labor dropped its ban on police membership and granted charters to 33 associations. Shortly thereafter, the disastrous Boston police strike occurred--an incident which set back police unionism by three decades.⁴

Although police organizational activity resumed during the late 1930's, the contemporary police labor movement began in the mid-1960's, accompanying the general public employee union activism. Soon, police reached the forefront of the public sector union movement; by the late 1960's, collective bargaining for police employees had become institutionalized throughout much of the United States (see Maddox, 1975: 13-14).

Police militancy reached new heights during the early part of the 1970's. Work stoppages, walkouts, and other job actions have

become commonplace. As one news magazine has noted, "In almost every large city across the country, police are in an angry, embattled, sometimes dangerously rebellious mood" (Time, 1976: 43). Juris and Feuille (1973: 19-20) attribute the widespread police discontent to several general factors: (1) increased public hostility to the police; (2) the rising demand for "law and order"; (3) low pay and poor personnel practices; and (5) the successes of other organized public employees. The authors further state that the major product of this dissatisfaction has been increased unionization by policemen throughout the United States.

Police unionism is characterized by autonomous local chapters operating within a context of loose national affiliation. The leading national police organization, in terms of number of chapters, is the Fraternal Order of Police (FOP), which was established in 1915. It has locals in almost every state and claims over 125,000 members (see Chapter One, Table 4). The largest national police organization, in terms of total membership, is the International Conference of Police Associations (ICPA). Basically a confederation of independent police associations, the ICPA was founded in 1953. Its primary strength lies in large cities of the Northeast (Stieber, 1973: 7). In 1972, it claimed 158,000 members in 100 state and local police organizations. Other local policemen are affiliated to a much lesser extent with AFSCME, the International Brotherhood of Teamsters, the Service Employees International Union, and the Meatcutter's Union (see Burpo, 1971: 8-9).

Despite their size, the national police unions normally do not play a major part in police labor relations or collective bargaining. Rather, their primary role is to provide legal, financial, and informational assistance to their locals. Police locals, however, are alleged

to be some of the strongest public employee groups in terms of the effective application of political power in order to win improved wages, benefits, and working conditions (Moskow, Loewenberg, and Koziara, 1970: 201).

In Police Unionism, Juris and Feuille (1973) present a lucid and informative discussion on the political tactics of police unions in the United States. They state that while the police organizations may engage in formal collective bargaining, they also are quite competent in political activities designed to achieve what may be denied them at the bargaining table. Juris and Feuille (1973: 49-51) describe police relations with such "third parties" to the bargaining process as the voting public, civil service commissions, the state legislature, the police commission and the governor. They note that what distinguishes police unions and other public employee organizations from their private sector counterparts is the fact that "... the union's bargaining power in the public sector consists of its ability primarily to manipulate the political costs of agreement and disagreement of the various managers rather than the economic cost manipulation that characterizes union power in the private sector," a point which was stressed in Chapter Two of this study. Juris and Feuille (1973: 56) illustrate their thesis with an example from one of the cities they studied, where the local police union:

" ... aided the leading mayoral candidate by endorsing him, giving him a small campaign contribution, and having the articulate union leader campaign for him. Very soon after he was elected, the new mayor signed a generous two-year police contract.

Juris and Feuille (1973: 68-70) speculate that because of the police unions' almost extreme group cohesion, the legal use of force and coercion by police and their potential capitalization on "law and order"

politics, they may exert the greatest impact on city governments of all public employee unions. If so, then one would expect that "police power" would be evidenced in the level of wages and benefits won by police organizations in negotiations with city governments. The purpose of the remainder of this chapter is to determine if police unionism does, indeed, result in higher salaries and benefits for its members.

Police Unions and Wages

According to Burpo (1971: 21), "The attainment of improved economic benefits is the most significant goal of police employee organizations." Three recent studies have attempted to gauge the degree of success enjoyed by police unions.

Ehrenberg and Goldstein (1975) employ nine independent variables in testing a model of public sector wage determination for 10 categories of municipal employees in 478 cities. Five variables were statistically significant for the police salaries equation: population density, population level, median family income, median family housing value, and average monthly earnings of private sector manufacturing workers. Although average police monthly salaries were seven percent higher in cities whose police employees engaged in formal collective bargaining procedures over wages, the authors report that this differential is not statistically significant. Ehrenberg and Goldstein's model is not exceptionally auspicious, as it accounts for less than 50 percent of the total variance in police earnings ($R^2 = .47$).

Lewin and Keith (1976) achieve a slightly higher level of explained variance ($R^2 = .53-.63$) in their effort to ascertain the determinants of police salaries in cities of 250,000 population and above for 1971 and 1972. The independent variables found to be most strongly

associated with minimum and maximum police salary levels for the two years were average hourly earnings of manufacturing workers, population density, and income inequality (as measured by the ratio of families with annual incomes exceeding \$15,000 to those earning less than \$5,000). A fourth variable, the existence of a wage parity arrangement between police and firefighters, was inversely related to the minimum salary level in both years at a statistically significant degree. The union measure, a dummy based on the presence of a police union affiliated with a national organization, was negatively related to salaries in three of the four equations, and significantly so at the 1972 maximum salary level. The authors speculate that this rather surprising finding may be because: (1) unions may increase the supply of police labor, thus lowering salaries; (2) unions may be more concerned with benefits than salaries in bargaining activity; and (3) the data may not reflect retroactive salary increases resulting from negotiations. The union findings may also result from the fact that the union variable is lagged three and four years behind the salary data, and because the influence of local nonaffiliated police unions is not accounted for.

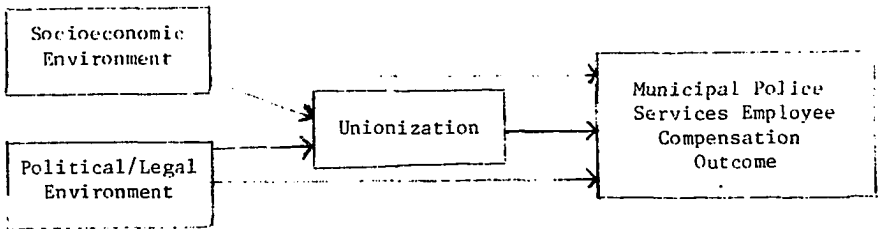
The third study related to police unions and salaries was conducted by Hall and Vanderporten (1977). Predicated on a traditional economic supply and demand model, the research utilizes eight independent variables in determining the influences on 1973 minimum, maximum, and mean annual police salaries in 141 cities of 50,000 population and above. All of the variables--crime rate per 1,000 population; median family income; number of business establishments per 1,000 population; median income of male craftsmen, foremen, and kindred workers; police/firefighter wage parity; population level; monopoly power; and

unionization—were statistically significant in at least one of the three equations. Multiple correlation coefficients ranged from $R^2 = .48$ for mean salaries to $R^2 = .65$ for maximum salary levels. The union measure, dummied on the basis of whether or not the police conducted formal collective bargaining with the city, indicated that bargaining added \$185.75 to the minimum salary, \$378.71 to the maximum salary, and \$599.88 to the mean salary. However, the relationship was statistically significant at the .05 level only in the average salary equation.

Taken together, two of the studies reported above would seem to show that police unionism has some positive influence on the salaries received by policemen. The deviant findings of Lewin and Keith are subject to substantial methodological and statistical criticism and therefore should be discounted. Problems also exist with regard to the research of Ehrenberg/Goldstein and Hall/Vanderporten as both (1) neglect to comment on possible multicollinearity among the independent variables employed in the analyses, and (2) fail to include fringe benefits in the compensation data. These shortcomings will be surmounted in the study reported below.

The Determinants of Police Employee Compensation: A Model

As in the case of state government employee compensation, the model applied to municipal police service employees will approximate closely the general model of public employee compensation presented in Chapter Two. The major purpose of the model, of course, is to isolate the impact of unionization on public employee compensation outcome when other determinants of compensation are taken into consideration. The model is specified as follows:



- I. The final element in the model, municipal police services employee compensation outcome, is estimated for 147 cities of 10,000 population and above in five states: Arkansas, Kansas, New Mexico, Oklahoma, and Texas. Three dependent variables are utilized in the multivariate analysis:
 - (1) uniformed patrolmen's 1976 entrance salary, (2) 1976 maximum salary, and (3) city contributions to police employees' retirement and insurance programs. The first two were taken from the 1977 Municipal Year Book and the 1976 FOP wage survey; the latter variable was obtained from the 1977 Year Book. Salary figures were standardized to a 40-hour work week. The benefits variable included municipal payments for federal, state, and local retirement systems and health, disability, and life insurance programs. Salary and benefit data were not added together because of the "floor and ceiling" nature of the salary variables and the fact that the benefits data reflect retirement and insurance contributions for all (i.e., uniformed and civilian) police personnel.
- II. Factors within the socioeconomic environment include:
 - A. Nature of the local labor force, measured by median years of education of city residents aged 25 years and older, 1970.

- B. Cost-of-living, approximated through 1972 estimates of per capita personal income within the municipalities.
- C. Ability to pay of the city government, measured by 1971-72 per capita general revenue from all sources.
- D. Population level in 1973.
- E. Population density per square mile in 1973.
- F. Number of FBI "crime index" violations reported per 1,000 population in 1975.

All six of the socioeconomic factors are expected to vary positively with police employee salary and benefits. It is hypothesized that a city with a highly-educated work force, high cost-of-living, large per capita general revenue, high population level and density, and a large number of crimes will pay its police patrolmen relatively more than a city ranking lower on the six socioeconomic measures.

As in the earlier chapter on state employee compensation, no direct measure of opportunity wage is employed. Although others (for example, Gustely, 1974; Lewin and Keith, 1976) have operationalized municipal employee opportunity wages through the average earnings of various categories of private sector employees, the variable has been found to be highly correlated with per capita personal income. In effect, it is expected that the income variable will serve as a good proxy for opportunity wage. Furthermore, there seems to be no objective way to determine private sector work comparable to the service performed by policemen (see Fogel and Lewin, 1974: 413), unless it would be that of private security personnel such as Pinkerton employees. In any case, these data are not collected at the municipal level, with the exception of the Area Wage Surveys periodically issued by the Bureau of Labor Statistics which apply

exclusively to Standard Metropolitan Statistical Areas (SMSA's). Only a small proportion of the total geographical area encompassed by the five states in this analysis would be covered by Area Wage Surveys.

III. Factors within the municipal political/legal environment

included in the model are the following:

- A. The existence of a civil service system for policemen, operationalized through a dichotomous dummy variable.
- B. City government structure, represented by a dummy variable with a value of zero for council/manager government form and one for mayor/council. Commission form of government was coded as missing data because only five of the cities reported having this type of government in 1976.
- C. Municipal elections--at-large, ward, or mixed--were included as a dummy variable with ward and mixed elections coded as zero and at-large given a value of one.
- D. The existence of a formal practice of salary parity between police and firefighters was also represented by a 0/1 variable.
- E. The state legal environment surrounding police employee collective bargaining was included as a dummy variable dichotomized on the basis of whether or not policemen are granted some form of bargaining rights. Oklahoma and Kansas, which grant such rights, were given a value of one, and the other three states were coded with zeros.

Geographical location was not specifically entered into the model as a variable because each of the five states are contiguous within the

south central section of the United States. In addition, the states evidence reasonable proximity in their factor loadings on 118 political, economic, and policy variables developed by Luttbeg (1971).

The presence of a civil service system which covers police employees is expected to depress the amount of salaries and benefits obtained by policemen. It is believed that a civil service commission, which typically is involved in the regulation of municipal employee wages and benefits, would operate in a fashion contrary to union compensation goals for several reasons, including its restriction of public employee political activities and its operation as a check on the authority of elected officials (see Crouch, 1968: 108-11; Burton, 1972: 125). According to Stieber (1973: 122-23), civil service commissions are, indeed, perceived by unions to be management oriented and controlled.⁵

City government structure, as it relates to public employee bargaining outcome, was discussed briefly in Chapter Two. It was noted that some scholars (Banfield and Wilson, 1967; Ehrenberg and Goldstein, 1975) contend that the influence of city employees tends to be strongest in council-manager cities, while others (Lineberry and Fowler, 1967; Gerhart, 1976; Saltzstein, 1974)⁶ believe that municipal employee influence is less in council-manager cities. Empirical research findings, unfortunately, have not resolved the issue. As Juris and Feuille (1973: 63) state, "it has not been possible to discern any distinct union advantages or disadvantages that unambiguously are a function of the form of city government."

The findings in Chapter Four regarding the enhanced compensation gains of public employee organizations in states with more capable and professional legislative bodies, might lead one to expect that cities

with a more "professional" form of government (i.e., a council-manager form) would also compensate their municipal employees more highly than cities with less professional governmental forms. Nonetheless, the hypothesis to be tested in this chapter will conform to the expectations of the general model of public employee compensation outcome: other things being equal, council-manager cities will pay their workers less than mayor-council cities. While the same should hold true for commission forms of government when compared to the mayor-council form (see UCLA Law Review, 1972: 1015), this latter relationship cannot be subjected to statistical testing in the research that follows as only five commission cities are included in the sample.

The impact of different types of municipal elections on urban policy outputs has been the topic of considerable discussion by political scientists.⁷ Generally, the view has been that at-large, nonpartisan elections should, like the council-manager form of government, result in a broader and more "professional" outlook by municipal leaders (see Shank and Conant, 1975: 84). If so, one might expect that public employee organizations in these "reformed" cities would not be as successful, *ceteris paribus*, as their counterparts in cities with unreformed institutions. In the analysis which follows, the narrower hypothesis to be tested is that at-large elections (one aspect of a "reformed" city government structure) will result in a lessened influence of police employees.

The existence of a formal practice of wage parity for policemen and firefighters was hypothesized to exert a depressing effect on police salaries and benefits. Wage parity between these two groups of municipal employees existed in over 60 percent of all U.S. cities in 1969 (Fogel and Lewin, 1974: 426). According to a study by Lewin (1973b), the

practice contributes to a shortage of police manpower and the relative inflation of firefighter salaries at the expense of police wages.⁸

Finally, it was hypothesized that, other things being equal, policemen within the two states which authorize collective bargaining for police employees--Kansas and Oklahoma--would receive relatively higher compensation than their counterparts in the other three states. This variable should, at least in part, account for the prevailing labor environment within the states and a potential threat effect within those two states which authorize police employee collective bargaining.⁹ This view is attested to by Juris and Feuille (1973: 60), who assert that the existence of a state bargaining statute tends to strengthen the position of police unions and insure them of greater visibility.¹⁰ In effect, this measure will be used in place of the union power variables employed in the faculty and state employee analysis.¹¹

IV. Two measures of police employee unionization initially were used in the analysis: (1) the percentage of policemen represented by a union or employee organization in formal or informal bargaining with the city, and (2) a union/nonunion dummy based on whether or not a formal contract existed between the police organization and the city in 1976. However, only 26 cities in the sample of 147 reported formal contracts, which was deemed to be an insufficient number of cases in the union category to include this variable in the multivariate analysis. Thus, it was expected that the remaining union measure--the percentage of policemen belonging to employee organizations--would be directly correlated with police salaries and benefits.¹²

Although data were collected on the different police organizations active in the sample cities,¹³ it was expected that they would act similarly in their activities designed to influence the amount of police compensation (see Stieber, 1973: 58).

The Data

Data on police union membership, labor contracts, and parity provisions were obtained through a mail questionnaire sent to city managers and administrative officers in Arkansas, New Mexico, Kansas, Oklahoma, and Texas (see Appendix). All cities with a population of 10,000 or over were included in the survey.

In general, the methodology recommended by Dillman (1972; Dillman, et. al, 1974) was followed in administering the mail questionnaires. A questionnaire and original cover letter were sent to 187 potential respondents along with self-addressed, stamped, letterhead envelopes (see Appendix). Ten days later a follow-up letter was posted as a reminder to those who had not yet responded. A third letter and a replacement questionnaire were forwarded three weeks after the original mailing.

The response rate was excellent. The original questionnaire was completed and returned by 68 percent of the total possible respondents. The final response rate was 91 percent (170 questionnaires). Because of a lack of data on the dependent variables for some cities, only 147 of the responses were used in the analysis, which is described below.

Before considering the results of the multivariate analysis, it might prove useful to divide the data on the dependent variables into union and nonunion categories, as was done in the previous two chapters. Of the 147 cities included in the analysis, 54 (37 percent) reported

some extent of police organizational membership.¹⁴ From Table 19, it is apparent that these "union" cities awarded their policemen higher entrance and maximum salaries and retirement/insurance benefits than did the "nonunion" cities. Average annual entrance salaries were 7.7 percent higher in union cities, maximum salaries were 4.5 percent larger, and the retirement/insurance benefits of unionized police exceeded those of non-organized police by over 18 percent. Although these differentials are somewhat smaller than those calculated for faculty and state government employees, it would appear that police organizations benefit their members in terms of the amount of salary and benefits received. In the multivariate analysis presented below, other factors potentially associated with police employee compensation will be accounted for in order to help isolate any particular impact of unionization.

Findings

Table 20 displays the simple correlation coefficients, means, and standard deviations for the three compensation measures and the 12 independent variables used in the multivariate analysis. Looking at the zero-order relationships between the entrance and maximum patrolmen's salary levels and the benefits variable ($r = .32, .40$), it is apparent that as in the case of state government employees, salary and benefit levels are not closely linked.

Socioeconomic factors appear to exert the strongest influences on the two salary variables. Both entrance and maximum salary are most closely related to per capita personal income ($r = .51$). The second strongest simple correlation for entrance salary is population level ($r = .36$); for maximum salary it is crimes per 1,000 population ($r = .41$).

TABLE 19. AVERAGE ANNUAL COMPENSATION FOR POLICE
EMPLOYEES IN UNION AND NONUNION CITIES, 1976

	Union	Non- union	Diff- erence	% Diff- erence
Average Entrance Salary	\$8664.19 (N = 53)*	\$8046.61 (N = 93)*	\$617.58	7.7
Average Maximum Salary	\$9968.91 (N = 54)	\$9538.70 (N = 92)	\$430.21	4.5
Average Benefits	\$ 144.48 (N = 40)	\$ 121.96 (N = 86)	\$ 22.52	18.5

*Sample size varies because of missing data.

Source: ICMA (1977). The Municipal Year Book. Washington, D.C.: ICMA; Fraternal Order of Police (1976) A Survey of 1976 Salaries and Working Conditions of the Police Departments in the U.S. Flint, Michigan: Fraternal Order of Police.

TABLE 20. MEANS, STANDARD DEVIATIONS, AND CORRELATION COEFFICIENTS FOR ALL VARIABLES
FOR ANALYSIS OF POLICE COMPENSATION

		\bar{X}	S.D.	y_1	y_2	y_3	x_1	x_2	x_3	x_4	x_5	x_6	x_7	x_8	x_9	x_{10}	x_{11}	x_{12}
y_1	Entrance Salary	8271	1367	-														
y_2	Maximum Salary	9772	1814	.76	-													
y_3	Benefits	128	72	.32	.40	-												
x_1	% Police Emp. in Org.	31	42	.21	.17	.13	-											
x_2	Median Years Education	11.8	1.1	.28	.35	.15	-.01	-										
x_3	Per Capita Pers. Income	3382	634	.51	.51	.28	-.02	.69	-									
x_4	Per Capita Gen. Rev.	118	56	.07	.27	.17	.21	.06	.04	-								
x_5	Population Level(thous.)	69	152	.36	.37	.20	.35	.06	.19	.20	-							
x_6	Population Density	22	11	.05	.08	.10	.00	-.10	-.01	-.08	.04	-						
x_7	Crimes per 1,000 Pop.	56	22	.32	.41	.10	.18	.03	.14	.33	.37	-.02	-					
x_8	Civil Service System	.5	.5	.30	.22	.03	.22	.04	.12	.05	.26	-.15	.31	-				
x_9	Munic. Govt. Structure	.2	.4	.05	.01	.02	.10	-.07	-.08	-.14	.14	.07	-.03	.19	-			
x_{10}	Election Type	.7	.4	.01	-.03	-.04	-.07	-.21	-.29	.16	-.14	.06	.05	-.09	-.20	-		
x_{11}	Parity	.1	.3	-.02	-.07	-.06	.22	-.02	-.09	-.02	.00	.01	-.03	-.04	.09	-.02	-	
x_{12}	State Collec. Barg. Law	.3	.5	-.15	.03	.27	.18	.31	.20	.12	-.10	.04	-.11	-.21	-.14	-.23	.10	-

Sources: ICMA (1977) and FOP (1976) y_1 - y_3 ; mail survey x_1 , x_8 , x_{11} ; Bureau of the Census (1973) x_2 ; ICMA (1976) x_3 , x_{10} ; Bureau of the Census (1974) x_4 ; ICMA x_5 , x_6 , x_9 ; Department of Justice (1975) x_7 ; Department of Labor (1976) x_{12} .

Other socioeconomic factors exhibiting notable associations with the salary measures are median years education ($r = .28$ for entrance, $r = .35$ for maximum) and per capita general revenue ($r = .27$ for maximum). Population level represents the third highest correlation with maximum salary ($r = .37$), while crimes per 1,000 population is in a similar position in its relationship with entrance salary level ($r = .32$).

The only factor within the political/legal environment that shows even a moderately strong association with both salary variables is the civil service system dummy ($r = .30, .22$); it is in a direction opposite to that which was hypothesized. Other political/legal environmental measures evidence weak relationships with the salary variables.

State collective bargaining law shows a moderate positive association with benefits ($r = .27$). The only other factors which appear to have potentially significant associations with benefit contributions are per capita personal income ($r = .28$) and population level ($r = .20$); other socioeconomic measures show weaker relationships.

Of primary importance for the purpose of this analysis, of course, is the salience of the unionization measure. From the matrix it is evident that the police organization variable is only weakly related to the three dependent variables ($r = .21, .17, .13$). This stands in marked contrast to the situation indicated in the earlier analyses of faculty and state government employees, where unionization/compensation simple correlations were substantially stronger.

In searching the matrix for evidence of possible multicollinearity between the 12 independent variables, one finds only a single instance of possible difficulty--the simple correlation between per capita personal income and median years education ($r = .69$). However, the correlation

is not of sufficient size to cause the elimination of either variable.

When the salary and compensation measures are regressed on the 12 independent variables (Table 21), the levels of explained variance which emerge are somewhat disappointing. The highest multiple correlation coefficient is found in the entrance salary equation ($R^2 = .52$). Explained variance for maximum salary is a bit lower ($R^2 = .45$); for the benefits equation, the multiple correlation coefficient is quite small ($R^2 = .21$). In short, the general model of public employee compensation determination is not as good a predictor of municipal police salary and benefits as it is of faculty and state government employee compensation.

The most important variable for the purposes of this investigation is the measure of unionization--the percentage of uniformed police employees belonging to an organization which bargains, formally or informally, with city officials over wages and benefits. Police unionization displays a statistically significant¹⁵ standardized partial regression coefficient in only one equation--entrance salary ($\beta = .16$). While police organization is positively associated with the other two dependent variables ($\beta = .08$, $\beta = .03$), the relationship is not of sufficient strength to attain statistical significance.

The dollar benefit of police employee unionization for salaries can be determined from an examination of the unstandardized partial regression coefficient for the union measure in the salary equations. The b values of 5.30 and 3.30 indicate that for every one percent increase in police organizational membership, a corresponding increase of \$5.30 in the annual entrance salary level and \$3.30 in the annual maximum salary should result.

TABLE 21. PARTIAL REGRESSION COEFFICIENTS AND T-RATIOS
FOR POLICE EMPLOYEE COMPENSATION, 1976

Variable	Entrance Salary			Maximum Salary			Benefits		
	b	B	t-ratio*	b	B	t-ratio*	b	B	t-ratio*
% Police Emps. in Org.	5.30	.16	2.29	3.30	.08	1.01	.40	.03	.30
Median Yrs. Ed.	-2.61	-.02	.25	10.51	.07	.71	-.93	-.15	1.31
Per Capita Pers. Inc.	1.21	.56	6.29	1.25	.44	4.58	.04	.33	2.85
Per Capita Gen. Rev.	-1.85	-.08	1.12	4.04	.12	1.72	.12	.09	1.03
Pop. Level (thous.)	2.36	.26	3.65	1.73	.14	1.88	.07	.15	1.64
Pop. Density	4.86	.04	.66	15.51	.10	1.48	.39	.06	.78
Crimes Per 1000 Pop.	5.48	.09	1.24	18.09	.22	2.90	-.02	-.01	.07
Civil Svc. Sys.	225.58	.08	1.20	170.72	.05	.64	1.34	.01	.10
Mun. Govt. Struct.	94.29	.02	.38	244.75	.05	.70	17.78	.09	1.07
Election Type	588.36	.19	2.76	422.77	.10	1.46	19.68	.12	1.36
Parity	69.15	.01	.22	-270.80	-.04	.61	-19.80	-.08	.94
State C.B. Law	-544.15	-.19	2.66	-85.40	-.02	.29	44.88	.30	3.24
R ²		.52			.45			.21	
F Ratio		12.1			9.3			2.92	
Standard Error		988.0			1400.0			66.8	

*T-ratio of 1.98 would be significant at the .05 level (two-tailed test)

Extrapolating a bit, it could be predicted that, *ceteris paribus*, a local police force in which 100 percent of the uniformed policemen are organized for formal or informal negotiation purposes should see their entering patrolmen starting at an annual salary \$530.00 greater than identical employees in a city with no reported unionization; maximum salaries should be \$330.00 higher. Although this is no small amount, the lack of statistical significance for the police organization measure in the maximum salary and the benefits equations casts some doubt on the efficacy of police unionization with regard to its success in the area of salary and benefit gains.

Since police unionization in the five state area is more prevalent in larger cities, and because only 37 percent of all sample cities reported any degree of police organizational input into the wage and benefit-setting process, it is conceivable that one or both of these factors might exert confounding effects on the unionization measure. In order to test for this possibility, cities with populations of less than 20,000 were eliminated from the data set. Out of the 55 cases dropped from the analysis, only 11 were considered "union" cities. As a consequence, 47 percent of the municipalities remaining in the data set reported unionization--almost one-half.

Multiple regression procedures were repeated for the sample of 92 cases. Explained variance increased slightly in each of the three equations (two to four percent). The standardized partial regression coefficients for the union variable remained unchanged in the maximum salary equation ($\beta = .08$), and increased somewhat for entrance salary ($\beta = .25$) and benefits ($\beta = .08$). Significance testing, however, achieved results similar to those previously obtained, with police organizational membership attaining significance only for entrance salaries.

Turning to the other elements in the model, the only independent variable which consistently achieves statistical significance throughout all three compensation equations is the surrogate for cost-of-living and opportunity wage--per capita personal income. Standardized partial regression coefficients for this variable range from $\beta = .54$ for entrance salary, to $\beta = .44$ for maximum salary and $\beta = .33$ for benefits. Clearly, the local economic climate is quite important in determining the amount of salary and benefits received by policemen.

While only one other independent variable attains statistical significance for maximum salary (crimes per 1,000 population, $\beta = .22$), four additional measures are of substantial importance in the entrance salary equation. Population level ($\beta = .26$), percentage of police employees belonging to an employee organization ($\beta = .16$), election type ($\beta = .19$), and state collective bargaining law ($\beta = .19$). The latter measure also is statistically significant in the benefits equation ($\beta = .30$).

In general, the socioeconomic factors included within the model are associated with salary and benefits in the predicted positive direction. There are no statistically significant deviations, although median years education is negatively related to entrance salary ($\beta = -.02$) and benefits ($\beta = -.15$), and per capita general revenue is inversely associated with entrance salary ($\beta = -.08$).

A different picture is presented when the political/legal variables are examined. Only municipal government structure is consistently related to the dependent variables in the hypothesized direction. It would appear that there is a slight tendency for mayor-council cities to pay their police employees more than council-manager cities, other things being equal.

As expected, the existence of wage parity provisions for police and firefighters appeared to have a mild depressing effect on police salaries and benefits. However, the three remaining political/legal factors are somewhat surprising in their dependent variable relationships.

The presence of a civil service system shows a slight, positive association with police compensation in all three equations. Apparently, civil service commissions may be beneficial to policemen in terms of the amount of salaries and benefits they receive. Also contrary to the predictions of the model is the association between election types and compensation. Police employees in cities having at-large elections apparently receive higher compensation than their counterparts in cities holding ward or mixed elections, other things being equal. The advantage is statistically significant in the case of entrance salaries, as the model predicts that a \$583.36 annual entrance salary benefit accrues to policemen in at-large election cities. Despite assertions that cities with "reformed" political institutions should operate in a "businesslike" manner and eschew politics, this finding is not entirely unexpected. In fact, a reasonable assumption might be that municipal employees, including policemen, would enjoy more political leverage in cities with at-large elections. Ward-based municipal elections might force employee groups to lobby with a number of potential officeholders with widely varying constituencies and diverse personal orientations who might not be particularly amenable to the desires of the public worker. In effect, the bloc voting power of employee organizations would be divided and blunted. On the other hand, with city-wide elections, public employees could vote as a bloc for all candidates they considered to be favorable to their viewpoint, making them potentially one of the most powerful interest groups in the city.

The state collective bargaining law dummy variable contributes some interesting results. The measure, coded zero for cities located within the states of Arkansas, New Mexico, and Texas and coded with a value of one for cities in Oklahoma and Kansas, shows only a very slight association with maximum policemen's salary ($\beta = -.02$). State bargaining law, however, displays statistically significant relationships with each of the other two dependent variables, but these relationships are in opposite directions ($\beta = -.19$ for entrance salary; $\beta = .30$ for benefits). Thus, it appears that state legal authorization of collective bargaining by police employees exerts a very slight negative effect on police entrance salaries and a positive influence on the insurance and retirement contributions received by these public employees. While the latter relationship conforms to the expectations of the model, the reasons underlying the inverse association between policemen's entrance salary and state collective bargaining enabling legislation are not readily apparent.

Conclusion

The model of public employee compensation determination tested in this chapter was not as successful as in the previous two analyses. The total amounts of variance in the police compensation dependent variables explained by the elements of the model were considerably less than that obtained for faculty and state government employees. Multiple correlation coefficients were $R^2 = .52$ for police entrance salary, $R^2 = .45$ for maximum salary, and $R^2 = .21$ for municipal contributions to police retirement and insurance plans.

These relatively low multiple correlation coefficients correspond to those obtained in the other police salary studies cited earlier in this

chapter (see Ehrenberg and Goldstein, 1975; Lewin and Keith, 1976; Hall and Vanderporten, 1977). In part, the low amounts of explained variance may be a function of using entrance and maximum salary levels as dependent variables rather than mean salaries.

Although a substantial amount of the variance in police compensation remains unexplained, it appears that for police employees in a contiguous five-state area in the Southwestern United States during 1976, public employee unions did not exercise the disproportionate political power that Wellington and Winter (1971: 169), among others, have alluded to, at least when political success is measured in terms of salary and benefit gains. While all three compensation variables were positively associated with unionization, only police entrance salaries were substantially higher as a result of organizational membership--maximum salaries and municipal benefit contributions were not as strongly affected by police unionization. Other forces, operating within the socioeconomic and political/legal environment of the cities, were of greater importance in determining police compensation.

Perhaps the police organizations in this area of the country have not yet gathered their forces for an assault on salary and benefit levels, choosing to concentrate on noncompensation issues instead. Indeed, Maddox (1975: 24) refers to several police rank and file attitudinal surveys during recent years which have shown that economic factors do not rank as high as job security, job protection, and other variables on issues which are of major concern to policemen.

As in the cases of faculty and state government employees, it is apparent that socioeconomic factors are the strongest determinants of police employees' salaries and benefits. Per capita personal income within the city is particularly salient, reflecting the important influence

of cost-of-living and the overall local economic climate on the compensation levels granted to police service employees. Other socioeconomic influences substantially affecting police compensation are population level (entrance salary) and the local crime rate per capita (maximum salary). Nature-of-the labor force (as measured through median years education), ability to pay (per capita general revenues), and population density were of lesser consequence in their impact on police salaries and benefits.

Only two of the political/legal environmental variables were of much consequence in their relationship with compensation: at-large municipal elections had a favorable influence on entrance salaries, while the presence of facilitating state collective bargaining legislation showed a strong direct association with benefits, but a statistically significant inverse relationship with entrance salary. Evidently, police employees are able to obtain salary advantage in cities with at-large municipal elections, compared to mixed or ward elections. This finding confirms the suggestion of Banfield and Wilson (1967: 214). Interpretation of the state bargaining law variable awaits further study.

Contrary to what was hypothesized in the model, the existence of a civil service system for police employees does not appear to depress salaries and benefits. In fact, there seems to be a slight positive association between the variables, although not a strong one. The absence of a significant relationship between municipal civil service commissions and police employee compensation might have been anticipated from a study by Crouch (1968: 108-11), whose analysis could not confirm any difference in administrative policies and decisions resulting from the presence of a civil service commission.

The association predicted for formal police/firefighter wage and benefit parity and police compensation was not in the direction hypothesized,

as parity agreements were slightly correlated with high salaries and benefits. Little confidence should be placed in this finding, however, as none of the standardized partial regression coefficients were very high and, furthermore, only 12 of the cities in the analysis reported the existence of a formal police/firefighter parity arrangement, an insufficient number of cases for valid analysis.

Although the data indicate that council-manager cities pay their policemen less than mayor-council cities when other influences are accounted for, the relationship is not strong enough to achieve statistical significance. This is, however, a most promising area for future research. Various studies have documented the expanding policy role of city managers in American cities (see Wright, 1969; Almy, 1977). Conclusive findings on whether or not the typical city manager actually affects expenditure decisions, such as in the amount of compensation paid to municipal employees, awaits further empirical research.

In conclusion, it must be stated that the relationship between municipal police unionism and police compensation has not been established satisfactorily. Although common sense would dictate that police organizations--like faculty and state government employee unions--have a positive influence on salaries and benefits, the data presented here do not warrant great confidence in this position. Perhaps if a similar study were extended nationwide, one could be more certain of the nature of the findings.

NOTES

1. New York City constitutes the ultimate in public employee union influence on municipal government. The city's civil servants are some of the most highly compensated in the United States in terms of both wages and fringe benefits. For a critical assessment of the public employee labor relations experience in New York City, see R.D. Horton (1973).
2. Stieber (1973: 228) has speculated that the lower union membership figures in smaller municipalities may be because they present less cost-efficient organizing targets, similar to small firms in the private sector. Stieber goes on to submit that a "critical size" of 50,000 population exists at which (1) public employees are likely to foresee the potential benefits of organizational membership, and (2) unions become interested in organizing the municipal workers. Police and firefighters, Stieber notes, are an exception to this proposition.
3. Highway workers are the most highly-organized of all municipal employees.
4. The Boston Social Club was one of the 33 AFL police locals. Boston police in 1919 worked 80 hours per week for pay amounting to less than that received by streetcar conductors. When the police commissioner ordered them to discard their AFL charter, they refused. Charges were brought against the policemen, who retaliated with a mass strike.

Looting and violence became rampant throughout Boston. Public opinion turned against the police, as epitomized in Massachusetts Governor Calvin Coolidge's statement, "There is no right to strike against the public safety by anyone, anywhere, anytime." Eventually, all police employees were fired and the AFL revoked the charters of all 33 police locals. See Maddox (1975: 9-11); Juris and Feuille (1973: 16).

5. See Wellington and Winter (1971: 143-45) for a discussion on the conflict between civil service systems and collective bargaining.
6. Saltzstein (1974) asserts that city managers assume a management perspective in dealing with employee organizations, resisting the labor organizations and defending the interests of taxpayers. He attributes this management role to their socioeconomic backgrounds, training, and peer group influence. Saltzstein (1974: 338) foresees city managers as presenting a "potent force" in opposing employee organizations, with the "professional" values of managers and council members substituting for the role of the profit motive in limiting private sector bargaining compensation outcomes. Based on his own research findings, Wells (1967) supports Saltzstein's argument with regard to the tendency of a city manager to oppose employee organizations.
7. For one of the first empirical efforts in this area, see Lineberry and Fowler (1967).
8. Out of the 147 sample cities, only 12 reported a formal parity arrangement. See Burpo (1971: 97-100) for a discussion of the parity issue, which is complicated by different work hours, training, and hazards within the police and firefighter occupations.
9. All Kansas public employees, excluding teachers, have enjoyed meet and confer bargaining rights since 1971. Oklahoma police, fire, and

municipal employees have had mandatory bargaining rights since the passage of relevant legislation. also in 1971. Municipal workers in Arkansas and New Mexico do not have statutory bargaining rights. The situation in Texas is unique: in accordance with a 1973 law, police and firefighters are granted mandatory bargaining rights, but only upon the passage of appropriate legislation through a local referendum (see U.S. Department of Labor, 1976). To date, 25 referenda have been held. Eleven cities have decided to permit police and firefighters collective bargaining: Texas City, Corsicana, Beaumont, Laredo, Brownsville, El Paso, Sherman, Corpus Christi, San Antonio, Kingsville, and Bryan.

10. The relationship between collective bargaining law enactment and the strength of public employee organizations is not, however, unidirectional, as states with substantial public employee union organizations have been among the first to pass such legislation (see Stieber, 1973: 23).
11. Data on the percentage of union membership in the private sector workforce are not aggregated by the Bureau of Labor Statistics at the city or county levels. Therefore, this variable was not included in the analysis in this chapter.
12. Lewin's (1974a) finding that organized public employees influence wage decisions even in the absence of formal collective bargaining supports this methodological decision.
13. Police organization affiliation was reported as follows:

FOP - 34	Local (non-affiliated) organization - 25
ICPA - 1	Other national organizations - 4
IBPO - 2	

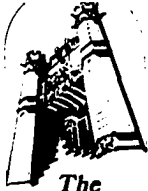
14. Much of the union membership is concentrated in the larger municipalities.

Population and organizational membership figures are as follows:

<u>City Size</u>	<u>N</u>	<u>% Reporting organizational membership</u>
500,00 and above	3	100%
250,000 - 499,999	6	100
100,000 - 249,999	10	60
50,000 - 99,999	20	55
25,000 - 49,999	33	36
10,000 - 24,999	75	21
Total	147	37%

Clearly, the formal and informal bargaining role of police unions is directly related to city size in the five states.

15. As in the previous analysis of state government employees, tests of statistical significance are not truly applicable when the sample constitutes a universe of cases. Nonetheless, the use of such tests does provide some indication of the strength of various relationships.



APPENDIX

The University of Oklahoma

455 West Lindsey, Room 304 Norman, Oklahoma 73069

Bureau of Government Research

Enclosed is a brief questionnaire prepared by the Bureau of Government Research for a project we are conducting on collective bargaining in the police services. We realize that city officials like yourself are bombarded with questionnaires these days and regret that we find it necessary to use this means for gathering information for our project. However, the project is concerned with an area of vital interest to city officials--public employee unionism in the municipal service.

The questionnaire should take less than five minutes to complete. With the exception of the first question, it is simply a matter of checking blanks.

If you so indicate, we shall be happy to send you the results of the questionnaire, so that you can become apprised of what the police "union" situation is in other municipalities within the five-state area of Oklahoma, Texas, Arkansas, New Mexico, and Kansas.

Your assistance with our project is greatly appreciated. Thank you for your valuable time.

Sincerely,

David R. Morgan
Associate Director and
Associate Professor of
Political Science

DRM/ps
Enc.

BUREAU OF GOVERNMENT RESEARCH

University of Oklahoma

Norman, Oklahoma 73019

SURVEY ON COLLECTIVE BARGAINING IN POLICE SERVICE

1. Please enter the appropriate figures indicating the number of full-time, sworn employees in the police protection function and the number represented by unions or employee organizations in dealing with the city, either formally or informally, on wage and benefit matters: †

	<u>Total No. of Employees</u>	<u>No. of Employees Represented by Unions or Associations</u>	<u>No. of Employees Not Represented By Unions Or Associations</u>
Police protection _____	_____	_____	_____

2. If in question 1 you have shown any police employees as represented by unions or employee associations, please identify the organizations to which they belong with a check (✓).

_____ FOP	_____ SEIU	_____ Local organization
_____ ICPA	_____ LIU	not affiliated with
_____ AFSCME	_____ IBT	any national organi-
		zation
		_____ Other (specify) _____

3. Do your city's police employees come under a civil service system?

_____ Yes

_____ No

If so, since what year? _____

4. If your city bargains with police employees over wages and benefits, either formally or informally, who has the primary bargaining responsibility for the city?

_____ Chief Executive	_____ Personnel or Civil Service Director
_____ City Manager	_____ Budget Director
_____ Assistant City Manager	_____ Other (specify) _____
	_____ Not applicable

THE QUESTIONS ON THE SECOND PAGE SHOULD BE ANSWERED ONLY IF YOUR CITY CONDUCTS FORMAL OR INFORMAL BARGAINING PROCEDURES WITH POLICE PROTECTION PERSONNEL.

5. Does a formal, written contract exist between the city and a police organization?

_____ Yes

_____ No

If so, what was the first year in which a formal contract was negotiated? _____

6. Does the police organization receive a dues check-off for police employees?

_____ Yes

_____ No

7. Are police-city negotiations "open" to the public?

_____ Yes

_____ No

Do you think they should be? _____ Yes _____ No

8. Does a formal parity arrangement exist among police and firefighters with regard to salary and benefits?

_____ Yes

_____ No

If so, since what year? _____

IF YOU DESIRE A COPY OF THE RESULTS OF THIS SURVEY, PLEASE COMPLETE BELOW:

Name _____

Address _____



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Bureau of Government Research

May 2, 1977

Recently we mailed you a questionnaire on collective bargaining in municipal police services, and asked for your participation in this important survey.

If you have already returned the questionnaire, please consider this note a "thank you" for your valuable assistance.

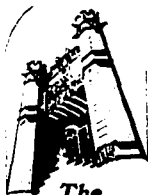
If you have not had a chance to do so yet, may we ask you to return the completed form now? Your participation is vital to the success of our study.

Sincerely,

David R. Morgan
Associate Director &
Associate Professor
of Political Science

DRM/ps

455 West Lindsey, Room 304 Norman, Oklahoma 73069



**The
University of Oklahoma**

455 West Lindsey, Room 304 Norman, Oklahoma 73069 7/31/77

Bureau of Government Research

Last month we mailed you a questionnaire requesting information on collective bargaining in the municipal police services for your city.

Our records indicate that you have not yet returned the questionnaire. Since your response is very important for our survey, we are enclosing another copy of the form for you to complete.

If you have any questions about the survey or the information contained in it, please contact us at the Bureau of Government Research (405) 325-6621.

We look forward to hearing from you at your earliest convenience.

Sincerely,

David R. Morgan
Associate Professor of
Political Science

DRM/ps
Enc.

CHAPTER SIX

SUMMARY, CONCLUSIONS, AND TOPICS FOR FUTURE RESEARCH

Organized groups of workers--unions--are a relatively old phenomenon in public employment in the United States, having been in existence since the early 1830's. But public employee unions have been significant social and economic forces only since World War II. As union membership began to decline in private sector employment, public employee unions started to register their first substantial gains. With the changing legal environment of public sector labor relations in the early 1960's, public employee unionism became a major economic and political force to be contended with by American state and local governments.

An important goal of this research has been to serve as a bridge linking the study of private sector wage determination with the determination of salaries and benefits in public sector employment. Constructing this bridge has permitted the specification of social, economic, political, and legal factors which influence the amount of compensation received by various categories of public workers. Identification of these wage determinants was necessary in order to pursue the primary purpose of this research--the isolation of any impact of unionization on the compensation of state and local government employees. Throughout this research, the focus has been on one effect of public employee unionism--its influence

on public employee compensation levels. Causes of unionization have not been treated empirically.

A review of research findings of economists relating to the union impact on wage determination in the private sector reveals that scholars are in general agreement that new unionism has been a source of relative wage advantage during most years since 1890. Findings regarding the effects of continuing unionism have been conflicting, although continuing unionism does appear to generate some wage advantage during periods of economic recession.

Specific wage impacts of private sector unions averaged 15-20 percent from the late 1930's through the early 1940's, 7-10 percent from 1944 to 1945, less than five percent in the following two years, 10-15 percent in the late 1950's, and 20-25 percent during the 1960's and early 1970's. Other major determining factors in the wage levels received by workers in private employment were found to be geographical location, size of the work establishment, characteristics of the labor force, profit levels, cost-of-living, comparative wage standards, some noneconomic factors, and the wider economy.

Because of the differences extant between the public and private spheres in legal environment, economic environment, organizational relationships, and political activity, it was necessary in developing a general model of public sector compensation determination to select only those determinants of wages in private employment which seemed appropriate to the public sector. The general model outlined in Chapter Two was also firmly grounded on research findings of economists concerning specific public employee wage determinants.

In following chapters the model was tested on three categories of public workers: faculty at institutions of higher education, state government employees, and municipal policemen. Varying results ensued. The model was a good predictor of faculty and state government employee compensation, but it did not fare so well when applied to municipal policemen.

In Chapter Three it was discovered that collective bargaining in higher education within the United States has been associated with increased salaries and benefits for organized faculties. The matching of union and nonunion institutions in accordance with various criteria resulted in a \$625 annual compensation differential in favor of unionized faculties. When other influences were accounted for through the use of multiple regression techniques, the union faculties were found to benefit by more than \$1,200 in 1974-75 annual compensation and by nine percent in average compensation increases over a five-year period.

When the sample was dichotomized by public and private institutional control, it was determined that unionization was associated with a \$1,294 salary and benefit advantage for private schools in 1974-75, compared with \$1,135 for public institutions. The change measure indicated that while unionized private faculties received 14.3 percent more in compensation over a five-year period than their nonorganized counterparts, public faculties enjoyed an advantage of only 5.8 percent.

In Chapter Four, the analysis turned to the union impact on state government employee salary and benefits. Results showed that in 1974 the unionization measure was a significant determinant of overall state employee retirement benefits and salary as well as state hospitals and police employee compensation. In states where government workers were organized,

a \$1,318 salary and retirement benefits advantage resulted--about 13 percent more than unorganized state employees when other factors were also taken into consideration.

In the fifth chapter, municipal police employee pay and benefits became the subject of the research. Data gathered, in part, from a survey questionnaire mailed to city administrators in a contiguous five-state area were subjected to multiple regression analysis in order to uncover the impact of police employee organizations on the compensation of policemen. Police unionization was found to be significantly related to patrolmen's entrance salary, but only moderately associated with maximum salary and fringe benefits. The entrance and maximum salaries for police forces which were 100 percent organized were predicted to exceed those of nonunionized policemen by annual amounts of \$530 and \$330, respectively.

The findings of the analyses summarized above generally are in keeping with the public sector studies on the impact of employee unions on compensation reported in previous chapters. Earnings differentials favoring unionized public employees range from approximately six percent for municipal police entrance salaries and three percent for maximum salaries in five southwestern states, to 5.8 percent for mean faculty salaries in public institutions of higher education, and up to 13 percent for mean salaries in the case of state government workers. Based on this research and other studies the conclusions discussed below would appear to enjoy considerable empirical support.

Conclusions

1. The unionization of public employees is associated with increased salaries and benefits for organized workers, at least in the short run. The research findings reported in this study and the evidence presented by various economists clearly point out this relationship.

2. While unionization exerts a positive influence on public employee compensation, the union effect is not as strong as in the case of many private sector workers. The 20 to 25 percent increase in wages associated with private sector unionization in the 1960's and early 1970's exceeds that found for various public sector occupational categories during the same time period by 10 to 15 percent. It is important to emphasize, however, that the union compensation effects may be of greater consequence for public employers than for private sector employers, particularly since it is much easier to pass along salary and benefit increases to the consumers of goods and services produced in the private sector. To illustrate, it is considerably more practicable for General Motors to transfer the costs of a labor agreement to the public through price increases on new model cars than it is for the city of Dallas to obtain voter approval of a new municipal tax increase.

3. Clearly, market constraints do operate in the public sector to limit public employee compensation gains. Although many of the traditional private sector market constraints identified by economists such as competition, profits, and product prices are absent from the public sphere, others are present. Budget considerations, tax levies, bond issues, a sense of "the public good" and other factors affect the outcomes of collective bargaining in public sector employment. It is especially the role of that "third party" which is located at the core of public sector labor relations--the public itself--that often proves to be of critical importance. Interested state or local public organizations and individuals may be able to act as countervailing powers in seeing that excessive and harmful wage and benefit settlements are not negotiated by the major parties to the bargaining process. When a city, for example, suffers an operating budget

shortfall, public employee layoffs and wage cuts must be considered. If public workers threaten to strike for compensation increases that are not reasonably affordable to a governmental entity, the strike should be viewed as a viable and possibly less expensive alternative to excessive wage and benefit settlements.¹ In short, government employers, union representatives, and the general public all must develop a proper sense of perspective and responsibility in conducting the people's business.

There are indications of a shift in public opinion against those public employee organizations which have been particularly obstreperous in some states and cities in the United States. For example, the alternative of "farming out" government work to private concerns is being explored by the state of California, which is currently training a police force for the temporary replacement of striking local police. Voters in San Francisco--a city which has been responsible for extraordinarily high public employee wage settlements--have rebelled at the polls in expressing their determination to avoid further abuse of the collective bargaining process². Finally, interviews by the Bureau of National Affairs with government and union officials and congressional sources find "a strong public opinion swing against government employee unions" (GERR, No. 626: 2-1 Special Report). In other words, there are special constraints which operate within the public sector to insure that wage and benefit settlements do not get entirely out of hand.

4. It necessarily follows that the Wellington and Winter hypothesis that the "nonmarket setting" of public employee labor relations will permit public workers to distort the political process, disadvantage other interest groups, and gain a disproportionate share of governmental operating budgets has failed to

gain either theoretical or empirical support from this study or others (Hammermesh, 1975; Freund, 1974). Although the evidence is rather clear that some large municipal unions have gained unusually high salary and benefit increases, this outcome appears to be the exception rather than the rule. However, it does appear likely that public employee unionism will continue to assist public workers in catching up with and sometimes surpassing similarly-situated employees in the private sector. To place the specific findings of this research in the Wellington and Winter context, it is not likely that faculty, state government workers, and municipal police employees have exercised a "disproportionate" influence on the operating budgets of their respective employers.

5. Socioeconomic environment is the primary determinant of the pay and benefit levels received by public employees. The measures employed in this research which were found to serve as important and consistently strong compensation determinants were cost-of-living and economic climate (per capita personal income), nature of the labor force (education levels), and previous compensation increase. Population level, municipal crime rate, and governmental or institutional revenue were also of significance in some cases. Factors within the political/legal environment which served as salient compensation determinants in at least one regression equation were union membership in nonagricultural employment, state labor relations law, state legislative capability/professionalism, and type of municipal election.

6. Although the causal factors associated with the growth of public employee unionism were not a matter of specific inquiry in this research, it is quite apparent that public employee union membership rolls will continue to swell during the next several years. As long as

public workers feel that they are not receiving adequate pay and benefits or that satisfactory grievance channels are not available to them, unions will present a very appealing option. As more states enact permissive collective bargaining legislation, further union growth will ensue.

The growth of unionism in the public sector should not be looked upon with undue apprehension. In many ways, it is simply an extension to the public sector of employer-employee labor relations as they are constituted in the private sector. There are probably more similarities than differences in labor relations within the two sectors. As American society becomes increasingly complex, the traditional public/private dichotomy loses relevance (see Spero and Cappozola, 1973: 312-22). The two sectors have developed more and more reciprocal relationships, especially in the exchange of goods and services. One consequence has been that many privately-provided goods and services are just as "essential" as those which are publicly-provided. Lockheed and American Telephone and Telegraph are examples which come quickly to mind.

Like their counterparts in private employment, state and local government employers must learn to accept and cope with collective bargaining. Public officials and administrators should take the initiative in developing bargaining expertise as soon as collective bargaining becomes inevitable in their respective spheres of operation, if they are to protect the interests of the American public as a whole. Disasterous outcomes of public employee bargaining are not necessary. Perhaps Stanley and Cooper (1972: 144-45) have stated it best:

In the bargaining process unions are necessarily constrained by prevailing practice in the private sector and in other governments, by fiscal realities, by the need to do business in the future with management, by managements' skill and resolution in bargaining, by impasse resolution procedures, and by managements' ultimate willingness to 'take a strike' and apply sanctions.

Lewin (1973a: 309-321) reports that whereas unions in public employment may contribute to some uneconomical practices on the job, they also "have spurred management into more efficient utilization of equipment, improved personnel practices, (modified) unfair hiring standards, and (reduced) waste through faulty production." In this sense, collective bargaining has improved public management.

None of this discussion is meant to imply that there are no important differences in the structure and processes of labor relations in the public and private sectors. The public sector is different because of many factors, especially the "third party" participants in all public sector negotiations, including legislative bodies, the actors within the executive and judicial branches, civil service commissions, and many others. Public sector labor relations are undergoing a period of change which requires a dynamic and mature approach on the part of both labor and management. Eventually, the kinks in the structures and processes of labor relations will be worked out. Until then, open minds and a spirit of pragmatism should prevail among all parties.

Future Areas for Research

Because of the recency of the widespread movement among public workers to organize, the structure, processes, and consequences of collective bargaining in public employment largely remain unexplored. The field

is ripe for theoretical and empirical research by those with either academic or applied interests. This study will conclude with some suggestions on the directions future research could take.

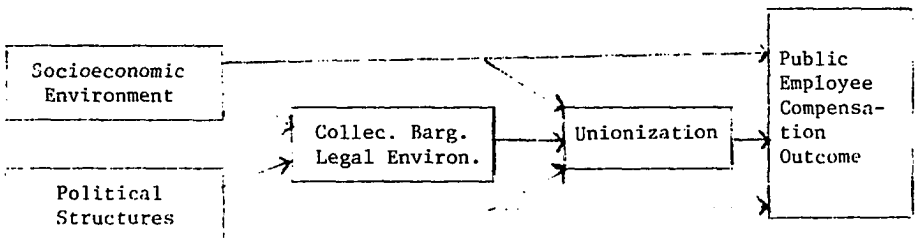
First of all, improvements can be made on the model of public employee compensation determination which was employed in this study, particularly as it was applied to municipal police employees. Compensation determinants could be better specified in order to increase the amount of explained variance in the dependent variables and enable a more satisfactory isolation of the union impact on the salaries and benefits of public employees. It would be especially helpful to develop a measure for operationalizing comparative wage standards at the municipal level. Those studies of compensation determination in larger cities which have utilized a comparative wage standard as an independent variable have found it to be a very strong determinant of employee salary levels (see Gusteley, 1974). Although the Bureau of Labor Statistics collects this information for large metropolitan areas through its area wage surveys, the data currently are not available for smaller cities and towns.

If some improvements such as operationalization of comparative wage standards could be made, the model should be extended to police compensation determination in cities of 25,000 population and above throughout the 50 states. Although a regional study such as that presented in this research is of considerable interest, a national analysis would certainly provide a more comprehensive picture of police employee unionization's influence on salaries and benefits.

A related matter concerns the compensation measures employed as dependent variables in the foregoing analyses on faculty, state government

employees, and police salary and benefits. With the exception of the faculty collective bargaining study, the total dollar value of fringe benefits was not available for analysis. As data collection improves in the area of public employment, more complete benefit figures should be forthcoming for utilization in future research. It is quite important that the dollar value of fringe benefits be included along with salary amount if researchers are to provide a comprehensive treatment of public employee compensation determinants and--more salient from the viewpoint of this study--any accompanying union influence.

Taking a broader, more theoretical perspective on the whole issue of unions, public workers, and compensation determination would constitute a further area for inquiry. More specifically, it would be helpful to construct a model encompassing both the causes and effects of public employee unionism in the United States. A very general outline of the model and hypothesized causal linkages might be as follows:



Thus, linkages could be explored between the social, economic, and political environments of a category of public employees and their impact on (1) the legal structure of collective bargaining; (2) extent of unionization; and (3) salary and benefits outcome. This approach would broaden considerably the scope of analysis. Empirical testing of various hypothesized correlations among elements of the model could clarify the direction

and order of important relationships in the wider area of public employee labor relations, and thereupon expand our knowledge of various critical interrelationships.

One of the major justifications for the research presented herein was to study the alleged impact of public employee unionism on state and local government financial problems. A preliminary conclusion of the study was that these organizations have not exercised an unduly harsh impact on the budgets of various governmental entities. However, this thesis was not tested directly. Future research might concentrate on the influences of public employee unions on overall governmental budgetary practices or, more specifically, on the makeup of capital and operating budgets.³ Employee salaries and benefits compose the largest portion of all state and local operating budget expenditures. If collective bargaining is causing a decrease in capital budget spending and a shift toward larger outlays for employee compensation, this could, among other things, lead to a deterioration of the governmental physical plant and an increase in long-range costs. It is especially important that pension costs be considered here, as the future contractual pension obligations of many state and local governments exceed 20 percent of total payroll costs (see Spero and Capozzola, 1973: 227-29).

On the other side of the coin, future research should confront the question of the impact of public employee collective bargaining on the revenue aspect of governmental budgeting. As Stanley and Cooper (1972: 131) have observed, management contentions that a government can't afford to grant certain compensation demands are increasingly viewed with considerable diffidence by employee spokesmen. Spero and Capozzola (1973: 233) concur in this observation, noting that a city's professed inability

to pay for employee demands has sometimes been discredited as the only criterion upon which to base the amount of wage increases. Government employers may be pressured to seek the necessary revenue to fund compensation demands from new sources or increase the intake from existing sources. If this phenomenon could be confirmed with budgetary data from the states and cities, and a significant union impact could be isolated, then there would be some direct evidence that public employee unionism has been a major factor in state and local financial problems. In sum, this would constitute an alternative means of testing the Wellington and Winter thesis.

At the state government level, further empirical testing should be made of the relationship between state legislative capability/professionalism and the compensation received by state workers. The investigation then could be extended to encompass other aspects of the state political system, including gubernatorial powers and the role of the bureaucracy. Although some general work has been conducted in this area (see Sharkansky, 1969), much remains for scholarly inquiry.

Although a great deal of political science research has been directed toward the role of reformed urban governmental institutions (council-manager form of government, nonpartisan elections, at-large elections) in municipal politics (see Hawkins, 1971: 19-60), this work typically has not attempted to fit municipal unions into the picture. There are some exceptions to this statement, found principally in a few studies which have dealt tangentially with the role of the city manager in labor-management relations (see Saltzstein, 1974; Ehrenberg, 1973; Burton, 1972; Kochan and Wheeler, 1975). As noted earlier, however, findings have been conflicting.

Nonetheless, this constitutes an important field for future research. City managers are taking an expanding and assertive role in the politics and administration of American municipalities. As one scholar (Almy, 1977: 20) has stated, city managers "have become the major source of local policy." City managers have assumed the responsibility for wage and benefit negotiations in most council-manager cities,⁴ thus placing themselves at the heart of labor-management relations. As public employee unionism continues to spread throughout the municipal scene, it will be useful to monitor the success or failure of managers in dealing with unions at budget time, compared with the leading city negotiators in mayor-council cities.

It will also be interesting to observe the effects of collective bargaining on the organizational structure of city government. Evidence reported so far indicates that bargaining exercises a centralizing influence on managerial authority within the executive branch (see Burton, 1972). If this trend continues, one might anticipate a reduction in informal municipal multilateral bargaining, the legislative "end-run," and other union tactics intended to benefit from the political setting of public employee unionism. In effect, a more cohesive public "management" may be one result of collective bargaining in public employment.

Other "reformed" institutions--nonpartisan and at-large elections--have received very little attention in the literature on public employee unionism. Findings reported in Chapter Five of this research, however, indicate that at-large elections do have some impact on salary levels won by municipal policemen, with organized employees doing relatively better in at-large election systems. Future research should extend the investigation geographically and into more occupational categories in considering the role of election type in municipal employee bargaining outcome.

Finally, more research is needed on the part public employee unions play in electoral politics. Since Scoble (1963) first pointed out this research lacuna, little progress has been made in discovering what role, if any, unions take in determining the outcome of an election. Specific foci within this area could include candidate recruitment, unions in party politics, vote mobilization, and voting outcome.

Obviously, the foregoing study has tapped only a small aspect of public employee unionism. Just as clearly, collective bargaining in state and local government is a ripe area for future study within the discipline of political science. It is hoped that this research has made some small contribution to the broader area of public sector labor relations.

NOTES

1. Some states have authorized the right to strike by some or all categories of public employees, including Hawaii, Alaska, Minnesota, Montana, Pennsylvania, Oregon, Rhode Island, and Vermont. Thus, it appears that a general reappraisal is being made of the relative costs involved in maintaining labor peace in the public sector (see Lewin, 1976: 154-55).
2. After a 39 day strike in April and May of 1976 by 1,800 municipal craft workers in San Francisco in protest of a pay cut, city officials and voters turned rather hostile toward the striking employees. City voters had forced the pay cuts by requiring the city to abandon pay parity between municipal craft workers and comparable private sector employees. After the strike, four union leaders and five labor organizations were found guilty of contempt of a court injunction against the strike. Each organization was fined \$4,000, and each union leader received a \$500 fine and five days in jail (see Monthly Labor Review, 1976: 49). Other anti-labor measures were also enacted by San Francisco voters, including a provision for firing public employees.
3. For one effort which attempts to analyze the influence of collective bargaining on the public budgetary process of a single state see Derber, et al (1973).

4. Saltzstein (1974: 335) reports that 72 percent of council-manager cities have given city managers this responsibility.

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